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THE
AMERICAN
BEE JOURNAL.

EDITED BY SAMUEL WAGNER.

"———To Us, both field and grove,
Garden and orchard, lawn and flowery mead,
The blue-vein'd violet, rich columbine,
The wanton cowslip, daisies in their prime,
With all the choicest blossoms of the lea,
Are free allowed and given."

Parliament of Bees, John Day, 1607

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AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

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Practical Bee Culture.

HOW CAN WE SECURE THE LARGEST YIELD OF HONEY?

This is unquestionably one of the chief problems in bee-culture, well deserving to be frequently considered and thoroughly investigated. I do not, however, propose to discuss it here in its fullest scope, but only so far as a special case is involved; and would therefore limit the question more definitely by putting it in this form—"How can we secure the largest yield of honey from a colony *prepared and inclined to swarm*, when in a movable comb hive, and with a prospect of plentiful pasturage?" The range of inquiry becomes thus very considerably restricted; yet, properly viewed, it retains sufficient importance to challenge thorough discussion, and interest enough to engage attention and invite reflection. To a knowledge of the facts and principles which I shall adduce in illustration of this topic, I have attained only very gradually, as the result of numerous experiments; and I communicate them now, as acquired from actual practice in the apiary. As I do not belong to that narrow-minded class of bee-keepers who confine to their own breasts whatever observations and discoveries of general importance and value they chance to make in the course of their experience, using them only for their own exclusive benefit, it affords me gratification to communicate unreservedly my views in elucidation of the question before us.

To enable a colony generally, or when an abundance of forage is suddenly presented, to store up a large quantity of honey, two prerequisites are indispensable. In the first place, the colony must be populous; and, secondly, it must be in a condition to husband its gatherings.

I regard a colony as populous when it can properly cover ten or twelve full-built frames in a movable comb-hive; and such a colony is in a condition to lay up stores, first, if it has no occasion to build combs, and, secondly, if at the time when pasturage is most plentiful, it has not an excessive amount of brood to nurse. Comb-building makes larger demands for material—honey, and likewise exacts much time and labor. We frequently hear bee-keepers say, on such occasions—"Oh, the bees will build just as rapidly as they can gather honey." This is equivalent to saying—"when flowers yield honey, the bees instinctively know that vessels must be provided to contain it!" This, however, is an entirely erroneous view of the matter; and experience last summer clearly demonstrated it to be such. When a colony has no occasion to build combs, it expends no honey for such purpose; and that which, in other conditions, would be so used may be stored up; and the time thus saved by the busy bee, may be devoted to more profitable labor. The proof of this position is annually furnished by those colonies from which a swarm has issued, for these notoriously become the best honey stocks, in seasons ordinarily propitious.

Again, if a colony has too much brood to nurse, while forage abounds, we commonly hear it said—"Precisely when pasturage is plentiful, (at about the time of the linden blossoms) my bees clustered densely on the brood combs, and hence did not store up as much honey as we thought we had reason to expect." Very true; for under such circumstances not only will many workers be constrained to remain at home, in order to keep up the requisite brooding temperature in the hive, prepare food for the larvæ, and discharge household duties in general; but the masses of brood requiring to be nursed, consume a very large proportion of the honey daily brought in. Hence, an accumulation of stores, in such contingencies, is wholly out of the question, unless forage be uncommonly abundant and the weather peculiarly favorable for out-door labor. It is thus manifest, that if a colony is to produce the utmost possible yield, the bee-keeper must strive not only to have it populous at the opening of the season, but that it shall likewise be in the best possible condition for gathering and storing honey.

The question now recurs, what must we do in order to be certain of having right populous stocks, in the most favorable condition, at the opening of the honey season?

If a colony has been properly wintered and no special mishap occurs to check or prevent due development in the spring, it will hardly fail to become populous seasonably, without foreign aid or stimulative feeding. We have, therefore, only to consider how we may properly and seasonably strengthen *weak* colonies. There are two modes of effecting this. A weak colony may be built up by means of its own internal resources, or by foreign aid, that is, by brood taken from strong colonies. To build up a colony in the former manner, I usually proceed thus: I endeavor first to raise the temperature of the brooding apartment of the hive, by removing all supernumerary combs and reducing the space by inserting a division board, carefully closing all slits, cracks, or crevices through which heat might escape from the brooding apartment. Then I insert between two of the brood combs in the middle of this apartment a frame of empty worker comb, selecting such, if practicable, as still contains a pound or two of sealed honey in its upper part. It will of course be understood that I had this in view already when I inserted the division board, by so placing it that the frame of empty comb might be put in its proper place. On the ensuing evening I feed the bees from below with diluted honey or sugar syrup, in a shallow dish. If a suitable supply of sealed honey in the comb has been previously introduced, a second or subsequent feeding will not be necessary. As bees instinctively desire to have their brood in adjoining ranges of comb, not suffering any vacant space to exist long in the brood-nest, the queen will promptly supply the cells of the inserted comb with eggs. As soon as these are hatched and the larvæ sealed over, an additional empty worker comb may be, in like manner, inserted in the brood-nest; and this process is to be repeated from time to time, as the increase of numbers from maturing young will permit. By keeping the brooding apartment within proper limits the while, and duly enclosed to prevent the escape of heat—especially at night, the hatching of eggs and maturing of the young will proceed without interruption. If the requisite care and circumspection be used in thus strengthening and building up a weak colony, so as never to proceed with improper haste, the object of securing a populous colony seasonably may certainly be attained. But this method is, nevertheless, not adapted to the building up of absolute *weaklings*, and will almost certainly fail if resorted to for such purpose. For such weaklings we must avail ourselves of the second method, strengthening them by the insertion of maturing brood taken from strong colonies; and they can thus speedily be converted into strong stocks—taking care to introduce combs containing worker brood ready to emerge, and not in greater number, at once, than the bees can properly cover and keep warm.

But whence are we to procure the combs of brood required for strengthening weak colonies? He who does not use unsuitable and unserviceable hives, and whose bees have been wintered properly, will generally have some populous and strong colonies in his apiary, even though he has to lend a helping hand by supplying them with a little stimulative food early in the spring, to bring them seasonably forward. From such populous stocks may safely be taken from time to time, as needed, one or more combs of maturing worker brood, immediately inserting in their stead, however, an equal number of full-built frames of empty worker comb. If there be no deficiency of forage, or the colony be adequately fed, the queen will at once proceed to supply the substituted combs with eggs; and in from nine to fourteen days the cells will be again replenished with sealed brood, and the colony will scarcely be conscious that several thousand bees have thus been abstracted from it by brood-tapping. Herein consists the wonderful power of multiplication possessed by the movable comb hives.

Having thus, without great labor, but with the exercise of sound judgment and intelligent interference, made your weak colony populous, the next effort must be to maintain it in full strength. This is another chief problem that presents itself for solution. We here encounter the natural swarming impulse of the bees. No sooner does a populous colony become conscious of its strength, and find abundant forage at command than drones are bred, queen cells started, and preparations made for the emigration of a swarm; and if the case be not taken in hand seasonably and treated judiciously, a swarm will issue, despite of our efforts to prevent it. When a colony is approaching this condition, and an immediate and continued full flow of honey may be looked for, I take prompt measures to cure it of the disposition to divide. But if forage so plentiful is not to be expected for several weeks yet, I pursue a different and milder course to prevent swarming. I effect this temporarily by enlarging the brooding space, and reducing its temperature by ventilation, also removing all drone combs and destroying the drone brood, if any is found. This latter is an essential item, requiring attention. But above all, I keep a watchful eye on the colony, acquainting myself intimately with its condition; for if we fail to act at the proper moment, and the bees once resolve to swarm, nothing short of the most radical interference can prevent them from doing so. Observing the first indications of their intention—diminished activity in flight; the non-occupying of empty combs inserted at the sides of the hive, though the population seems excessively crowded; seeing also that the combs are filled with sealed brood down to their lowermost edges; and finally noticing that drone brood is being reared in worker or transition cells, and the rudimentary queen cells are beginning to make their appearance, &c., I know that it is high time to act. I remove two or three brood-combs from the brood-nest, substituting empty worker combs for them; which is sure to be effectual for my temporary purpose. Having thus, for a protracted period, maintained the colony in full vigor, till the full flowing honey season is approaching, when honey may be rapidly stored, I proceed to apply the radical remedy, by which swarming is infallibly prevented. I provide *another* hive suitable for the size of the colony, furnished with frames filled with empty combs. Into this prepared hive, I shake off all the bees and place it on their accustomed stand. The shaking off, the transfer to a hive so strangely furnished, the entire absence of brood and stores, at once cure the bees thoroughly of their swarming propensity. But being populous, and having a full supply of combs, and thus exempted from the necessity of building any, and having, moreover, no brood to nurse, the colony can devote all its energies to honey gathering; and it is really marvellous to see what bees in such a condition can accomplish.

If it be desired to give the colony a young fertile queen, it can easily be done at the time of transfer from their old hive. Catch and remove the old queen, cage the young one, and liberate her on the evening of the third day. Though the queen, whether an old or a young one, will, under these circumstances, lay eggs rapidly and on an extensive sale, a considerable time must nevertheless elapse before the colony can receive an accession of strength from this source; and the daily diminution of numbers is great while pasturage is plentiful. To repair these losses and maintain the colony in full vigor, nay, to make it even more populous than it was before, I take combs of maturing brood from other strong stocks, about a week after the operation, and insert them, if practicable, in the *honey apartment*, between which and the brooding apartment communication has now been opened; or if I judge the colony not to be populous enough to cover the brood combs when placed in the honey chamber (regard being had to the temperature of the weather; for if that be high, sealed brood will mature and emerge in the ordinary heat of the hive,) I place the brood comb in the brooding chamber at the side of the division board, and transfer to the honey chamber the comb removed to make room for it. I moreover now fill out the honey chamber with any good clean drone combs in my possession. Indeed, there is in general, no better means of inducing bees to work in the brood chamber than to insert therein a comb containing worker brood nearly ready to leave the cells. If, as I prefer doing, I have given the colony a young fertile queen when the bees were shaken off and transferred, I need subsequently feel less apprehensive that a swarm will issue, even if it becomes excessively populous. Nevertheless, should I suspect that one might leave, I reduce the brooding space, taking care that in doing so I do not shut up the queen in the honey chamber; or I remove some of the brood combs, and substitute for them empty worker combs.

Of course the combs from which the bees were shaken off at the time of the transfer, are used to strengthen any weak stocks I may have, or to equalize colonies in my apiary.

But, I hear some one ask, "if all these things do not proceed so smoothly as you state—if, instead of good pasturage, bad weather should intervene and cut off supplies, how then?" Why, then, indeed, you must be governed by circumstances and act accordingly. You must not permit the shaken off and transferred colony, deprived of its stores, to suffer want. It must be fed, and this is best done by inserting honey in the comb. But dread of possible mishaps should deter no one from making preparations for action. It is well enough for the bee-keeper never to be over-sanguine in his expectations, or always to look at the future in the most roseate light. Yet this must not prevent him from doing his duty, or what seems at the time to be his duty. Let him trust the event to heaven and his own good luck, without perpetually forecasting the fashion of uncertain evils.

On the whole, my respected reader will doubtless have perceived that the *gist* of the matter here is, to *know at all times the condition of his colonies*, and to have at hand constantly *an ample supply of empty worker comb*. If he have only a few good stocks and a sufficiency of such combs, the building up of colonies and the multiplying of stock may proceed as it were by steam; and a good yield of honey may be secured even in such years as are called failures by common bee-keepers, at least in such localities as mine. With a good supply of empty combs, and a knowledge of the proper mode of using them in bee-culture with movable comb hives, results almost incredible may be achieved.

C. J. H. GRAVENHORST.

Brunswick, April, 1870.

[Translated for the American Bee Journal.]

How may the largest yield of honey be secured from an apiary.

The Baron of Ehrenfels, so celebrated in his day as a successful apiarian, called bee-culture the poetry of rural economy. Undoubtedly a large majority of my readers will cordially respond to this sentiment, for I think I may safely assert that whoever once partakes of the innocent enjoyments flowing from this noble pursuit, will never again forego them, if circumstances permit him to indulge his predilections and gratify his taste. The wonderful household domiciliated in the hive presents us with so much that is interesting and instructive that scarcely any other hobby could be exchanged for it with satisfaction or advantage. No doubt all of us concede the poetry, but how comes it that so many assert that this poetry yields no profit—that, with all its delightful gratifications, it has its attendant drawbacks, and, worst of all in the eyes of matter-of-fact men, it does not *pay?* Is this so? Is it indeed true, as the proverb avers, that

"He who would see his wealth take wing,
Needs but invest it in pigeons and bees."

I trow not. On the contrary, I maintain that bee-culture is a remunerative occupation, yielding fifty, sixty, aye, one hundred per cent. profit annually.

But certain prerequisites on the part of the apiarian are absolutely indispensable in order to secure compensating returns.

1. He must be thoroughly conversant with the Dzierzon theory, and possess calmness, coolness, and skill in the handling of bees. In short he must show himself a master both in theory and practice. If not, he will not be much profited by this pursuit, unless kind Providence has so favored him as to cast his lot in a country, in which, as the Baron of Berlepsch quaintly expresses it, he need only open his mouth to have ample, well filled honey combs fly down his throat.

2. He must provide himself with cheap, light, and convenient hives. I can confidentially recommend the Dzierzon twin hive as such,

though it has been found fault with by some, as permitting irregular comb building in its top. The fact is so, but is by no means as disadvantageous as it has been decried to be. In poor honey districts successful wintering is very materially assured by that arrangement.

3. He must multiply stock, whether by natural or artificial swarming, only till he has obtained the normal number of colonies, of which he proposes his apiary shall consist. It is only when he has reached that point that he may begin to turn his attention to the ingathering of full crops of honey. I prefer artificial multiplication, because it furnishes me at the same time with opportunities for improving the breed of bees.

4. He must regard the honey-emptying machine as indispensable in an apiary. It is the crowning gem of the movable comb system, entitling its inventor, Major Von Hruschka, to the gratitude of every bee-keeper.

5. He must melt up no combs or pieces of comb, except such as have grown black in the service, or are rendered useless by mould, or contain an accumulation of hardened pollen. All other combs must be carefully preserved and used in his practice.

6. The apiarian needs only few implements besides, in the prosecution of his work, whether he uses bars or frames in his hives. I prefer the latter, having long since adopted them in their simple form. I never could perceive any of the alleged disadvantages attending the use of them. Of comb drawers, comb jacks, knives, fumigators, feather brushes, queen cages, feeders, gloves, and bee caps, I make no use, and will forfeit twenty-five dollars to any one who catches me using anything for protection. A tight closet for the preservation of empty combs, is much to be commended.

Follow me now in spirit to my apiary, which at present contains sixty-two colonies. There were thirty-five in the spring. You see from this that I have not quite doubled my stock. I have prevented natural swarming as much I could, and shall reduce these sixty-two colonies to thirty-four, in the fall. To those colonies which have shown themselves to be industrious and of good temperament, which are now populous, and have given prolific queens, I shall give combs containing worker cells only, if they have not already such exclusively; always selecting combs at least half full of sealed honey, if such are to be had. If there are any drone cells, I cut them out and insert comb with worker cells in their place. I move the division board close up to the last comb in the brood apartment; and in the honey apartment I insert combs and bees of any colony I intend to unite with it, having previously removed the queens and sprinkled the bees with scented sugar water. The honey has already been, for the most part, removed by the melextractor. Then, by blowing tobacco smoke into the main hive, I alarm and dispirit the bees of the colony on which I am operating, and open the communication between the two apartments. The bees of the main hive, attracted by the odor of honey, speedily enter the honey chamber, kindly unite with the besprinkled strangers, and the joint body will co-operate in carrying over into the main hive or brooding apartment the honey not yet appropriated. If thereupon I consider the colony still not sufficiently populous, and I have yet other bees to dispose of, I repeat the process. All the bees thus added, unite peaceably with the old stock. That the union can be effected more conveniently where the twin hive is used, is very well known.

I winter only such colonies as I can by this process make as strong and populous as each should be in the spring, at swarming time. In doing so some bees will doubtless be lost or killed, but that is nothing in comparison with the wholesale slaughter incident to the brimstoning system. When uniting stocks the apiarian must provide himself with as many combs filled with sealed honey as will enable him to keep his bees well supplied till the ensuing spring, without recourse to feeding as the spring approaches, or better still, he should endeavor to have his colonies in such condition in the fall, that they shall be able to spare several filled combs when the spring has fairly opened. Such strong and well provided colonies can safely endure the ordinary rigors of winter and need no special protection.

Now assume that in the spring all those thirty-four colonies are alive and vigorous, as they may fairly be expected to be. On some mild day at the close of March or the beginning of April, the customary revision and hive cleansing should be performed, and while doing so I am careful to select about one-half of the whole number of stocks to be used specially as honey gatherers and storers. To these I transfer from the remainder all such combs as contain brood nearly mature, supplying their place from my stores of reserved combs containing sealed honey in the upper portion. Such combs I am careful to supply myself with in the fall, when using the melextractor, uncapping and removing the honey from the lower ranges of cells. These colonies receive in this manner additional provision in the best and most acceptable condition for use, and are at the same time, supplied with empty worker cells for the accommodation of the queen. Eight days subsequently I repeat the operation removing brooding combs again from the brooding stocks, to the intended honey stocks; thus building up the latter with ample reinforcements of population, so that by the end of May or the beginning of June, when spring pasturage —which is our sole dependence in this locality— is in full bloom, the hives of my honey stocks are literally overcrowded with bees, as laborers ready for the harvest. The brood thus introduced having meantime hatched and obtained the age fitting them for out-door work, the colonies, rejoicing in their vigor, are prone to make arrangements for swarming—to counteract which measures must be taken early. With this view, I provide as many hives as I have honey stocks on hand, and furnish them with a full outfit of empty worker combs. In each of them I insert a piece of worker comb containing eggs and unsealed larvæ, placing it well forward, near the entrance of the hive, because I design that the colony destined to occupy it shall there establish its brood nest. This brood comb is always taken from one of my choicest stocks, marked A No. 1, in my register, whereby I maintain the quality or secure the improvement of the breed. Then at noon on some fine day, when the bees are briskly flying, I remove my populous colonies to some other convenient location near by, and substitute for them the hives furnished with empty combs. Externally my hives are all so nearly alike in size, form and color, that the returning bees do not at first perceive the change that has been made, and enter without hesitation. Though evidently nonplussed and confounded at first when missing their stores and companions, and for a time ill at ease, the burdened honey gatherers ere long become reconciled to the change, cluster on the combs, unlade their cargoes, and proceed to rear queens. The artificial colonies thus produced, I thenceforward regard as my true honey stocks. The removed colonies lose nearly all their laboring force, as the departing bees, repairing to their accustomed stands when returning from the field, will be found there in the evening; and will next morning resume work with accustomed if not redoubled energy and zeal; prosecuting it so vigorously if the weather is fine, that the melextractor may be brought into use on the following day. To these honey stocks I also give any drone comb I may happen to have, placing it in their hives, at the sides. It will be readily filled with honey, and even though it should be left empty by the workers, the young queen will rarely deposit eggs in the cells when she begins to lay. While forage continues abundant the melextractor may be employed daily. Without this invaluable instrument the advantages of my mode of management could not be fully secured. How else could we procure a sufficiency of empty combs when needed; or how engage to its utmost extent the gathering ability of such an army of laborers? On the eighth or ninth day, these hives must be opened and examined to destroy supernumerary queen cells, and supply with fresh eggs and larvæ such as have failed in queen raising. They must be examined again two weeks later, to ascertain whether the young queens lay worker eggs; to remove such as do not; and to supply with queens, queens cells, or worker eggs, any that are found queenless. If the queens cells are not seasonably removed, swarms will be apt to issue, and defeat our plans. The extra queen cells may be used for making nuclei.

Experience has taught me that artificial colonies thus made, if the weather prove favorable while pasturage abounds, can produce extraordinary results, as they have no occasion to build combs, and will for some weeks have no brood to nurse. The old removed stocks, too, will in a few days resume labor industriously, their necessities compelling them to begin field work much sooner than they otherwise would.

This method may be employed a second time the same year, in districts having plenty of fall pasturage.

Finally, it must be stated that in a large apiary the emptying of combs by the machine, when forage is plentiful, is a laborious task; though like all the other work connected with the management of bees, it finds its compensation in the gratifying result. BAHRS.

[Translated by W S. Dallas, F. L. S., from the " Zeitschrift für Wissenschaftliche Zoologie," Bard XVIII. pp. 525-532.]

On the Law of the Development of the Sexes in Insects.

BY PROF. VON SIEBOLD.

The assertion made by Landois, in his preliminary communication, that the eggs laid by insects possess no definite traces of the sexual organs, and that the sex of the larvæ is only developed as male or female, after their escape from the egg-shell, by the influence of difference of food received from without, will not only possess the highest interest for all naturalists who attend to the reproductive history of organic bodies; but, as Landois applies the theory specially to the reproduction of bees, must also produce considerable excitement among the breeders of bees, as Landois in so many words completely denies the existence of the very peculiar parthenogenetic circumstances under which the male bees are developed from eggs.

Landois appeals to his repeatedly successful experiments, by which he thinks it is proved that all the eggs laid by a normal queen are fertilized by her; that in consequence of this fertilization the development of the larvæ in the egg takes place; and further, that these larvæ, when just hatched from the egg, do not possess any definite indications of sex. The sex of bees is rather (according to him) only fixed as male or female, by the difference of nourishment taken from without, according as the workers furnished drone food to those larvæ in drone cells, or worker food to those in worker cells. Landois transferred the bottom of a drone cell furnished with an egg into a worker cell, and *vice versa* the egg-bearing bottom of a worker cell into a drone cell; and by this means from the egg destined by the queen to become a worker, the larvæ from which, in consequence of this transfer, was nourished with drone food, he obtained a drone; whilst from the egg destined by the queen to become a drone, the larvæ of which, in consequence of a similar substitution, was brought up on worker food, a worker was produced.

Whether no error or illusion can occur in these experiments must be decided by practiced and experienced bee-keepers, to whom I particularly recommend the repetition of this experiment. For my part, I can only appeal here to those results which are to be obtained by anatominal and microscopic investigations of the larvæ of insects in course of development within the egg. Taking these into consideration, I feel compelled to express the greatest doubt as to the correctness of the new theory set up by Landois.

From the very careful investigations of various reliable observers in the domain of the developmental history of insects, we know that even in the egg, simultaneously with the development of the different systems of organs of an insect larvæ which has just escaped from the egg-shell, we are already able to distinguish the male or female sex from the difference in the form of the inner reproductive organs Harold, the well-known insect-anatomist, obtained the following results from his accurate investiga tions of the development of the cabbage-butterfly: The organs which produced by the formative power from the fluid of the egg are, a nervous system, a muscular system, an air-vessel system, and an alimentary system, together with the salivary and biliary vessels belonging to the latter—also, a pair of excretory organs, (namely, the sperming vessels,) a dorsal vessel, and lastly the germs of undeveloped reproductive organs, with a *perfectly, distinctly visible distinction of the two sexes.*

On the fifth plate of the under-mentioned work,* he gives an exceedingly instructive and true view of the germs of the reproductive organs of both sexes, as these gradually enlarge from the first formation of the cabbage-caterpillar in the egg up to its full growth and approach to transformation. In figure one, he shows the two reniform corpuscles divided by three constructions into four sections, lying one behind the other, (the future testes,) the two filaments issuing from them laterally (the future ducts efferent), from a male caterpillar which had crept out of the egg a few hours before; whilst in figure two, of the same plate, we may recognize the two bud-like corpuscles with four laterally approximated sausage-like divisions, and two filaments springing from behind, as the future ovaries and oviducts of a female caterpillar of similar age. I will not, however, conceal that Hermann Meyer did not succeed in finding the sexual parts in caterpillars which were only a few days old. On the other hand, Weisemann, in his remarkable work on the embryology of insects, completely affirms the correctness of the observations first made by Harold in butterflies, of the occurrence even in the embryo of the germs of the sexual glands, with distinctly visible distinction of the sex, inasmuch as he could likewise distinguish the rudiments of the sexual glands in the embryos of flies in the egg, although the difference between the germs of the male and female sexual glands is much less striking. In the investigation of a Tipulidæ larvæ, however, Weissmann obtained other results, which I must not pass over. When he sought the genital glands in the embryos of *Corethra plumicornis*, he certainly satisfied himself that in this insect also, as in the larvæ of the true flies, the sexual glands are already traced out in the embryo; but he found that in the larvæ of *Corethra* just escaped from the egg, the distinction is as yet by no means clear: and this distinction does not make its appearance in a marked manner until after the fourth change of skin. From Mecznikow's very accurate embryological investigation in insects it appears also, that although the tracing out of the sexual glands takes place very early in all embryos of insects, their further development does not advance at an equal rate in all such embryos; so that it is only in certain insects that the difference of the sexual organs occurs very early, and indeed already in the embryos; whilst in other insects, on the contrary, it is postponed, and takes place only in the excluded larvæ. In the very young larvæ of a *Simulia* just escaped from the egg, Mecznikow observed a small round genital rudiment, and concluded from this that the rudiments of the sexual organs are formed in the larvæ within the egg.

The same author recognizes, even at the first formation of the embryo in viviparous aphides, the rudiments of the sexual apparatus, as the so-called genital hill. During the further development of the embryo, and indeed very early, this genital rudiment becomes differentiated into ovarian tubes, in which so-called *pseudova* are likewise very soon developed; so that even during the embryonal life of the aphis-embryo, the development of the new generation commences, and goes so far that in the embryo ready to be born two germ chambers occur in each ovarian tube, of which the lowest already encloses an embryo in the first stage of its development.

In *Aspidiotus Nervi*, on the contrary, Mecznikow could not find any genital hill so early produced and differentiated into ovarian tubes, such as he succeeded in distinguishing in aphides. From these known circumstances in the first development of the reproductive organs of insects, it appears that differences occur in it, and that in a certain series of insects the differentiation of the sexual apparatus occurs in the embryos while still enclosed in the egg-shell, whilst in other insects this differentiation only takes place after the exclusion of the larvæ. Landois' theory can certainly find no application to the insects belonging to the first series—namely, the Lepidoptera and Flies, (*Muscidæ*,); and in the second series, in which the *Corethra*, *Simula*, and *Aspidiotus* are to be placed, it may be possible that the still rudimentary and indifferent sexual glands of the larvæ are further developed, in accordance with the male or female type, under the influence of the incepted nourishment.

When, and in what manner, in the larvæ of the bees, the first rudiments and the different differentiation of the sexual glands appears, we have no direct investigation to show. I earnestly recommend such investigation to entomologists for the solution of the question before us. Leuckart, however, has already given an indication in this direction*, when he says, "On the sixth day I find in the female larvæ the first trace of internal genitalia."

With regard to the above-mentioned discovery of Mecznikow's of the development in the embryo of viviparous aphides of ovaries, in the germ-chambers of which the formation of a new generation was already commenced, M. Landois has informed me by letter under date of the 5th of May, that he has succeeded by the gradual application of artificial cold and during the withering of the food-plants, to cause the disappearance of the viviparous aphides (the so-called *nurses*,) and the appearance in their stead of the sexual generation consisting of males and ovipositing females. I cannot doubt the result which Landois has obtained from his experiment; but I will take the liberty of putting the question: "How, in this case, does the production of the two sexes simultaneously with the existence of scanty nourishment agree with the new theory set up by Landois?"

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*Entwickelungeschichte der Schmetterlinge, Basel und Marburg, 1810, p 1.

*Bienenzeitung 1865, p. 210.

From his experiments on bees, Landois draws the conclusion that the development of the male and female bees is induced, independent of the fecundation or non-fecundation of the ova, only by the difference of food supplied to the larvæ—abundant nourishment producing females, and scanty nourishment males. According to the observations and statements of our most experienced observers of bee-life, this opinion expressed by Landois, as to the different feeding of the larvæ of bees, is not correct. All writers who have treated of the rational management of bees agree in this that the *whole of the larvæ* in the earliest period of their life (up to the sixth day) receive the *same nutriment*, namely, food paste (partially digested chyle-paste) with which the larvæ destined to become queens are fed abundantly and uninterruptedly until their change to the pupa-state; whilst *the larvæ of the workers and drones* afterwards (from the sixth day) receive, instead of the chyle-paste, a coarser sort of food from indigested honey and pollen.*

This identity of the nourishment of the young brood of the workers and drones, seems to have been entirely overlooked by Landois. A difference between the food of the workers and the drones, such as Landois lays so much stress upon, does not exist. As from the observations of our most experienced breeders of bees, the workers are able to rear a queen from worker larvæ before it is six days old, and as the workers can by means of royal food procure a queen from every egg originally laid in a worker cell by a healthy normal queen; but not from an an egg normally deposited in a drone cell; it follows as a matter of course that in bees the sex is definitely fixed beforehand, even in the egg, by the effectuation or omission of fecundation, and not merely defined by the difference of the food of the larvæ.

The development of the eggs, laid by unfertilized queens, from which, according to the experience of all observant bee-keepers, only drones are produced, is not regarded as parthenogenesis by Landois; at least the term parthenogenesis is avoided by him, although he speaks of a primary and secondary drone-brooding, the cause of which is thus explained by him—"that eggs are laid by queens or workers which are furnished *scanty formative materials* from which *weakly larvæ* must be developed and consequently drones."

Whence does Landois conclude that these eggs laid by drone-brooded queens or workers, are furnished only with scanty formative materials? By what investigation has he arrived at the knowledge that from such eggs weakly larvæ and consequently drones must be developed? Has he convinced himself by careful observation and exact dissection of such drone mothers, of the absence of male semen in their sexual organs? Our scientific bee-keepers could state, with regard to a great number of drone-brooded queens, with certainty, that they had remained unfecundated and that they consequently laid unfertilized eggs, though, as experience has proved, capable of development, and from which, whether deposited in drones or worker-cells, only drones are developed. The dissection of such drone mothers, which has been often enough undertaken by persons well acquainted with the subject, has always proved that the seminal receptacle, whether normally developed or rudimentary, contains no trace of male semen.

As Landois refers to the fact that, with regard to the proposition "that drones always proceed from unfertilized eggs," Dzierzon himself doubted his own theory, "because in one experiment on intercrossing German and Italian bees, remarkable and inexplicable phenomena occurred, which could not be brought into harmony with Dzierzon's theory," I must appeal to the arguments which I have already urged against this doubt of Dzierzon's.*

Landois states that by taking my young larvæ of *Vanessa urticæ*, and feeding them imperfectly, he reared from them only males, and by feeding them abundantly only females. This assertion is in complete contradiction to the phenomena which may be observed on *Polistes gallicæ*, with regard to the production of the sexes. Every female of the *Polistes* fecundated in the autumn, after passing through its winter sleep, founds a separate colony at the commencement of spring. It makes a comb for itself, furnishes the cells with eggs, and then still quite alone, feeds the larvæ produced from these eggs until they are full-grown. From these larvæ the so-called workers (that is to say, small female individuals,) are always developed. Male individuals are never bred in the months of June and July; and it is only in August that the males issue from the operculated cells of these colonies of *Polistes*. According to Landois' theory, the larvæ reared by the solitary *Polistes* mother ought to furnish males, as this brood is usually very scantily provided with nourishment, and is indeed often left for a considerable time without food by their mother, which has to complete the business of feeding them without any assistance. This starvation of the brood of the *Polistes* occurs when the temperature becomes cold, when the sky is overcast, and during rain and wind; for when the weather is unfavorable, even if this last for several days, the females of the *Polistes* remain uninterruptedly inactive, concealed behind their combs. As no supply of food is laid up in the combs of the *Polistes*, but the nourishment is always poured from mouth to mouth by the wasp into the larvæ, the scarcity of food often causes the development and growth of the larvæ to go on very slowly, and with interruptions. According to Landois, all these circumstances ought especially to favor the development of male individuals; but until a large number of workers (which, as larvæ, certainly did not revel in a superabundance of food) have been excluded to assist the mother, no male individuals of *Polistes* are developed.

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*To indicate only a few of the many authorities who have expressed themselves concordantly as above, with regard to the feeding of the larvæ of bees, I cite the following: Leuckart Ueber die Nahruug der Bieneu; Bienenzietung 1855, p. 237; Berlepsch, Die Biene und die Bienenzucht, 1860, p. 102; Kleine, die Biene und Ihre Zucht, 1864, p. 29.

*Wahre Parthenogenesis bei Schmatterlingen und Bienen —English translation, p. 74.

In order to give more currency to the assertion that in those insects, the larvæ of which are developed in their food, a disproportionate number of females are developed, Landois refers, amongst other instances, to a great number of *Dipterous genera*, the larvæ of which wallow in the excess of their food, and mentions that out of four hundred and three species of *Diptera*, Meigen knew only the females of two hundred and fifty-five. But these examples cannot be adduced as in the least in favor of Landois' theory; Meigen in his well-known "Systematische Beschreiburg der Europäischen Zweiflügel Insecten," very frequently, by his own admission, had only a *single* female, and also very often only a *single* male in his hands, as the type of the descriptions of his species. Such scanty material as this is certainly insufficient to prove it a predominance of one sex over the other.—*Annals of Natural History*, Fourth Series, vol. 2, 1868.

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[For the American Bee Journal.]

Alley's New Style Langstroth Hive.

As many of my correspondents ask more or less questions in regard to my new style Langstroth Hive, and as I cannot reply to all of them separately, I now, for the information of such, make one general reply to all questions.

I will say, first, that this hive has exactly the same amount of room inside the frames, for brood and honey, as the shallow form of Langstroth Hive, and contains the same number of frames (ten); and I do not think this number of frames too many. It also has room for thirty-six (36) three pound surplus boxes; and when filled the honey shows to good advantage. There is no difficulty in selling any quantity of honey in such boxes.

The frames in the brood chamber run from side to side, thus making a free and clear passage between the combs to the surplus boxes; and it is impossible for a bee to travel five inches when inside the hive, without going into a box, unless it goes directly from the bottom of the hive up, or from the top down.

The brood chamber is portable, and can be taken off the bottom board at any time. The boxes are put on endwise to the brood chamber and frames, as seen in fig. 2; and the whole is then covered with an outside case or cap, as seen in fig 1. The frames can be removed at any time during the honey season, without disturbing the surplus boxes, as there are no boxes over the frames.

This hive is one of the best for wintering, and it is also a good one for summer. I now have two very full stocks in these hives. One contains a colony that I transferred to it May 20th. The bees are now (June 3d) at work in thirty boxes, eighteen of which are nearly full. The weather has been very warm, and I have not seen them attempt to cluster on the outside. Every bee can work, and none are prevented by heat inside the hive. The hive has a bee entrance seven inches long by $\frac{3}{8}$ inch high; and this is the only ventilation I give it in summer, except to make two one-inch holes in the cap, to let out the heat.

The inside of the hive does not heat up as other hives do, consequently the bees are not inclined to cluster outside in hot weather. It is weather-proof both summer and winter, and needs no bee-house. As it has a deep frame, and a brood chamber that is enclosed by an outer case, and can be ventilated without having a draft up through the cluster, it will be seen at once that no hive is better adapted for winter than this one.

I have found that bees will enter and commence work in side boxes earlier than they will in boxes set over the frames. I know it is hard for those to believe this who have the top-box idea on the brain; but it is a fact, and I have found it so from experience. Mr. D. C. Batchelder, of Newburyport Mass.) has a stock of bees in one of these hives that had filled thirty-six boxes up to June 3d, but they had more or less comb to start with, in all the boxes.

The one great objection to these hives is the cost, but they will be found cheapest in the end.

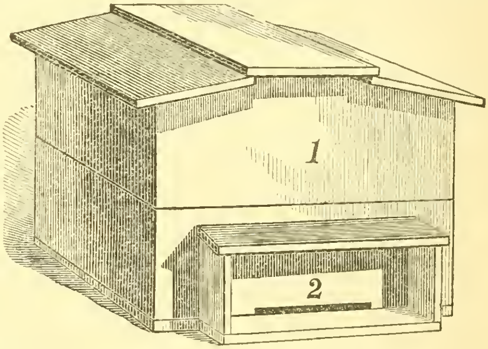

Fig. 1, represents the hive as it appears when in full operation.

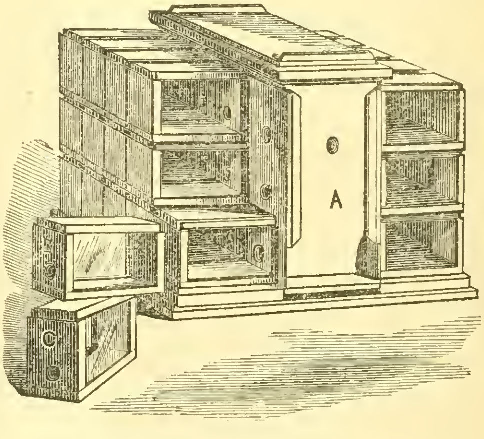

Fig. 2, shows the brood chamber and surplus box arrangement.

The brood chamber has an observing glass in the rear.

The outer case is made in two parts, which can be lifted off the bottom board, as represented in fig. 1. The grain of the wood all runs the same way in this hive, and there is no shrinking and opening of joints, to let in water every time it rains.

In making this style Langstroth hive it was not my intention to alter in the least the principle of the Langstroth frame and any alteration that I have seen or heard of has been a backward step in the construction of movable frames. How the Langstroth frame can be altered to make it more simple or to answer better the purpose of the bee-keeper, I do not know. My hive is simply a new style of Langstroth hive. The frames do not rest on the bottom-board, and have no tin fixtures or any thing else about them for the purpose of cheating Mr. Langstroth out of his patent right. Any hive that does not have the simple movable frame that Mr. Langstroth claims as his invention, is only fit for firewood; and all other frames are worse than none at all.

What I claim for my hive is this: First. It will winter a colony of bees as well as they can possibly be wintered, anywhere, on their summer stands, and with but little trouble to prepare it for winter. Second. It will allow of more room for surplus boxes, with less expense than any other hive in use. Third. It needs no other house, summer or winter. Fourth. The bees can reach the surplus boxes in less time and with less labor, than in any other hive yet devised. Fifth. The boxes used for this hive, will, when full of honey, sell more readily and at a higher price, than any other style of surplus box. In fact, this kind of box is just what dealers want to purchase.

In the September number of the Bee Journal, I shall give my plan for wintering in this hive. I will answer all inquiries made in regard to it, through the Bee Journal. H. ALLEY.

Winham, Mass.

[For the American Bee Journal.]

The Shallow Langstroth Hive.

MR. EDITOR:—It is not probable that the readers of the Journal have forgotten the animated controversy of 1868, with reference to the shallow Langstroth hive.

I have used that form of the hive some eight or ten years, and although there are some good points connected with it, still *for this latitude* (about forty-two and a half degrees, north), I am becoming more dissatisfied with it the longer I use it. It seems to me that any one, with even a limited experience in bee-keeping, must be aware that it is not a safe hive for wintering in the open air. Neither is it good for the six or eight weeks between the winter and warm weather. My bees are always wintered in a dark room or cellar, and I have sometimes thought that the hives contained less bees, after being out a month, than when first taken from winter quarters.

It occurred to me last season, that these hives could be altered, and made not only deeper but better in some other respects. If any one using the shallow hive would prefer, and be satisfied with one twelve inches wide and twelve inches deep, holding eight frames instead of ten, he can with small expense alter them to that form. I mean small expense compared with laying aside his present stock of hives, and beginning all anew.

I have altered some ten or twelve, and will give a description of the process. My hives are fourteen and one-eighth inches wide, and to reduce the width to twelve inches, would take off one and one-sixteenth inch from each side. A board that thickness set in on each side would give just the width. But it is difficult to get boards of that thickness, and besides I wanted an air space between the two. The course decided upon was this. The side partitions are cut just the length of the inside of the hive and twelve inches wide, planed to eleven-sixteenths thick. A narrow ledge, three-eighths inch thick, is tacked around the edge on the side next the outside of the hive to give the air space; and when these partitions are set in, firmly fastened to the outside with screws and nails, they are twelve inches apart and two inches higher then the other parts of the hive. Strips, two inches wide and of the length of the hive outside measure, are set edgewise on the original sides, nailed down through with long floor nails, and fastened to the inside partition sidewise with screws. The ends, which are one and three-fourths inch plank, are raised in the same way, nailed down through, and also receive nails in the ends through the side pieces. A ledge is nailed around, five-eighths from the top, for the cover to rest upon as before; I now have a hive containing bout the same number of cubic inches, and two inches deeper, without losing any top-room, for the same honey-board is used as before.

Instead of single sides, it is now double, with a small air-space between. The expense, aside from furnishing new frames, is about one-eighth the cost of the original hive—that is, the cost of a new hive would alter about eighth.

I have pieced down a few frames, making strong work; although the expense is perhaps more than the cost of new frames, still it is better than transferring the combs. I will not occupy space, to describe the process of piecing down, as probably no one will wish to adopt it.

Perhaps I should not adopt this form of hive, if I should begin anew; but think it is very good, and far preferable to the shallow form, for this latitude, and the only way to get rid of that form without throwing away my whole stock of about fifty hives.

CALVIN ROGERS.

West Newbury, Mass., May 29. 1870.

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All the choicest spare honey should be removed from the hives, before the delicate whiteness of the combs becomes soiled by the travel of the bees, or the purity of the honey is impaired by an inferior article gathered later in the season.—*Langstroth.*

[For the American Bee Journal.]

Introducing Queens.

I have been introducing queens for the last three years in the manner recommended by Dr. H. C. Barnard, in the June number of the Journal (page 256, vol. 5), and was not aware that it was used by one besides myself. I never lost but one queen in introducing, and I think she was injured before I put her into the hive.

The hive should never be much smoked before the common queen is removed, as she may leave the combs, or if she does not, the "drunken" bees will fall off while you are examining them, and give you much trouble.

As soon as I have found and killed the native queen, I replace all the combs in the hive, put on the honey board *without the surplus boxes*, and blow in tobacco smoke until all the bees are stupefied. I then take some honey (*from one of the combs in the hive*) in a large spoon, and put the queen into it so as to get her thoroughly covered; then pour queen, honey, and all, right into the mass of bees, and know that ninety nine times in a hundred she is all right. Dr. B. is right in saying that unfertile queens may be introduced in this way as safely as a laying one.

I cannot resist saying (even at the risk of having Mr. Quinby again "tell that a little learning is a dangerous thing," &c.) that I have found queen cells to hatch often on the *eighth day*, and very often on the *ninth*.

D. M. WORTHINGTON.

St. Dennis, Md.

☞Whatever may be the case elsewhere, the *eighth day* is certainly, *here*, the grand climacteric in incipient queen bee life. We had five queen cells maturing in a hive, and intended to dispose of them on the first of June, that being the eighth day; but were prevented from doing so by a rain storm. Next morning, on opening the hive, we found one queen at large, three queen cells torn open, and one still closed—which proved to contain a dead larva. So much for unavoidable procrastination.—ED.

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[For the American Bee Journal.]

Replies and Explanatory Remarks.

In Volume 5., No. 10, page 202, our friend Thomas is after Gallup a trifle; and, in answer to his inquiries, I will say that I suppose the reason for the sealed brood perishing and becoming putrid in so short a time, was on account of the state of the atmosphere in the hive, caused by famine among the bees. I have read that, in the time of the Plague in London, meat would become putrid and fall from the hooks in the butchers stalls in from twenty-four to forty-eight hours after being dressed. I know there was a very sickening smell on opening a hive when the bees had become help'ess from famine, even where they had no brood. Not having scientific knowledge, I can only guess at the cause, Yankee fashion.

Then comes another question; and the answer is that the wisdom was not in the eggs, but in the bees. The bees would refuse to cluster on the eggs, and would leave them for other parts of the hive, even in a very strong stock. In some seasons I have seen nearly the entire swarm clustered on the outside of their hive; yet they gathered barely enough to keep the queen laying and preserve themselves from actual starvation. This would be early in the season. The combs were filled with eggs, yet the bees refused to brood them, until the flowers produced honey. Then all the bees would enter the hive and the eggs would hatch. At such times I have heard people say—"My bees have hung out, and I have watched them these three weeks and still they have all swarmed and gone off, and I did not see them when they went!" And I would reply that they had gone *into the hive*, instead of going off. "Oh no," they would say, "that was impossible, because there were so many bees, they could not all get in," etc. Understand that I have seen bees cluster out for want of room in the hive, as well as cluster out to prevent the eggs from hatching and the brood then starving. And here, I will remark that the Italians scarcely ever cluster out before swarming.

Why the eggs of some queens never hatch, and some hatch drone eggs altogether, is one of the puzzles that I have not yet mastered. About some of my queens being partially fertilized, I stated the facts just as they occurred; that is, that the queens laid part worker eggs and part drone eggs, but mostly the latter, and all mixed up promiscuously. At the same time that I had those queens, a correspondent (I think it was Dr. T. B. Hamlin, of Tennessee) wrote me that he had one queen in the same condition—that is, partially fertilized. I call it by that name, as I know of no other applicable; others can call it what they choose. I have stated the facts, but may not be able at present to assist any one out of the "fog." I have never seen queens fertilized but once; therefore cannot say anything about those that are claimed to have been fertilized more than once.

E. GALLUP.

Orchard, Iowa.

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[For the American Bee Journal.]

Buried Bees Resurrected.

In the January number of the Bee Journal, page 137, is published some of my experience in burying bees, to winter them; and also my intention to bury ten hives the past winter. This intention was carried into effect on the 16th day of November last, by burying my ten lightest swarms, (save one, which I did not consider worth trying) in a coarse gravel, placing them about twenty inches under the surface. These bees had so little food that I despaired of wintering them above ground by any means *I had.*

After being underground about four and a half months, they were dug up on the first of April, considerable frost being then over them. Two of them had died from starvation, and one from some other cause. Seven are living, with a good prospect of doing well. Seven swarms were thus saved by this means, without which all would have died. They came out pretty badly moulded. I had put to them a ¼ inch ventilating tube, from the top of the hive (but under the top board) to carry off the *moisture.* That tube, (there being but one to a hive) seemed to be without good effect. I think with two tubes, the one at the bottom and the other at the top of the hive, the latter extending highest in the air (as described in a former number of the Bee Journal,) a good ventilation would be effected, and the mould prevented.

In burying previously, I gave my bees no ventilating tubes, and as that applied this time was evidently without effect, if I should ever try more, I would either give them two tubes, or none at all. One thing is plain to me, namely that bees will not die for want of air, by being buried in winter time.

ALONZO BARNARD.

Bangor, Maine, May 13, 1870.

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[For the American Bee Journal.]

Experience with Foulbrood. Bees in North Carolina.

I have been contending with putrid foulbrood some ten years; have tried various experiments; put the bees in new clean hives, with new combs and pure honey, starving the bees two or three days. But I have had the best success by removing the queen in its first stages, keeping the colony queenless from one to three months, according to the aggravated appearance of the malady, then double up to make strong. I have had stocks treated in this manner, do well for three years after in succession, while other remedies failed.

But where the malady does not show itself till late in the season, or has assumed a malignant and advanced stage, I have yet to learn of any sure remedy but fire. I deem it very contageous.

Since removing to North Carolina, I have not as yet found any case of foulbrood of either kind, and hope I shall not. I have examined stocks in various parts of Wake county.

Apiculture, I am glad to say, is receiving increased attention in this section, though it does not command the attention it deserves. Only a small part of those who keep bees standing about their premises, have left the square box or hollow log. A few are trying the movable comb hives. Among these are Messrs. Hunter and Shultz, of Salem, who, I learn, are successful apiarians. The western part of the state seems at present to yield larger supplies of honey than the middle or eastern portions. Alsike clover will aid very materially in increasing the quantity and improving the quality of honey here and elsewhere, as well as add largely to the fodder crop.

I am pleased to see by the correspondence of the American Bee Journal that people are finding out that all is not gold that glitters, in regard to the Italian queens and bees, impregnation by one drone, and that for life, &c. I have had some careful experience in these matters, and perhaps will report in the future.

J. CURTIS.

Raleigh, N. C., May 23, 1870.

[For the American Bee Journal.]

Table of Days.

The following table is not, of course, infallible, as every bee-keeper knows; but it is an approximation.

After collating many books, the following is believed to be a *fair average* of the times so frequently desirable to know. If the inquirer will place the word *about* before these figures, he will not be far out of the way.

TWENTY days from the laying of the first drone *egg* the queen cells are begun.

EIGHT days after queen deposits an egg in a queen cell it is sealed.

ONE day after the queen cell is sealed the first swarm goes off.

SEVEN days after the (first) swarm leaves listen for piping.

TWO days after piping is heard, look for second swarm.

FOURTEEN days after the first swarm the virgin queen leaves to meet the drones, if no second swarm issues.

TWO days after wedding tour the queen lays eggs.

ONE day after hiving, the virgin queen of a second swarm leaves to meet the drones.

THIRTY days after hiving a large early swarm, the same swarm *may* throw off another.

APIS.

Holmesburg, Pa.

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[For the American Bee Journal.]

Natural and Prolific Hardy Queens.

How to secure them in quantities, for commercial purposes.

Having tried and failed to secure either prolific or long-lived queens, by the usual means mentioned by all authors and writers on bee-culture, at any season or under any circumstances, when queens were raised in divided stocks, or stocks deprived of their queens—they being *queenless* at the time of starting and raising the young queens—my experience corroborates the statements of Bidwell Bros., of St. Paul, (Minn.), of A. Grimm of Jefferson, (Wis.), and of E. Gallup of Orchard, (Iowa), and of numerous others who have given direct evidence on this important question; besides that furnished by the indirect evidence of correspondents in the BEE JOURNAL. The correspondents say that after the safe introduction of an Italian queen, "in from one week to two months, as the case may be," we find them queenless, the queen having been superseded, and queen cells started. And the desire is to know why, after having once accepted a queen, they should kill her and raise another. Such being forced queens are without true vigorous vitality, their course was soon run, their part played out, and they died. Their death has always been regarded as an accident, and explained away as such by queen-raisers,

This has always been my experience with

forced or artificially-raised queens reared in my own apiary from queenless stocks; and I have had to re-queen some colonies from one to five or more times in the season, and finally had to double them up in the fall—having been unsuccessful in securing a healthy long-lived queen.

As there is a great difference, and yet usually no distinction made, in *artificial swarming*, this difference must be kept in view, to properly understand the question. I assume,

First—That queens raised in a *queenless* colony are always worthless—taking natural queens as a standard—as regards prolificness, hardiness, or longevity.

Second—That queen cells taken from a large colony, and having been started when the colony was under the swarming impulse and the egg then laid, produce natural queens, with all the vigor of the parent stock.

Third—That queens of this second class, when given to divided stocks, are entirely different BIRDS, from such a sa queenless stock would have raised; and that the queens of the second class prove to be as hardy, as prolific, and as long-lived as their mothers.

Having devised or invented, proved and tested, a means of getting natural queens started in unlimited quanties in a swarm, under the influence of a prolific queen, I will describe my mode and means of doing so.

Price's method of securing natural, prolific and long-lived queens for artificial swarming, or for other purposes.

In the early spring, or as soon as desirable, proceed to stimulate by liquid feed, "honey, or sugar syrup," any known hardy or prolific queen, placing frames of empty worker comb between the brood combs in the hive as fast as the bees can duly cover them. Or instead of empty combs, insert frames of brood from another hive, as fast as the bees can take care of and cover them. Proceed thus till you have fifteen frames of brood. When the hive is full enough of hatched bees and drones, remove all but eight frames of brood, shaking off all the bees back into the hive, and using the removed comb to aid weak stocks. Place the eight combs in a Casket hive or other hive having division boards, crowding the bees that covered the fifteen frames on the eight. Now continuing the daily stimulus of liquid feed, the bees soon get under the swarming impulse or fever, and start more or less queen cells. When the cells have been supplied with eggs three or four days, remove all the combs with cells on them to a large queenless stock or a stock purposely deprived of its queen. Fill up the casket or other hive with combs full of brood taken from some other hive or hives; and by keeping up the daily stimulus of feeding, from ten to twenty natural queen cells can be taken from that hive every week. Remove all the queen cells or combs with queen cells at once, and replace them at once with combs full of brood; and under no circumstances put empty combs in this hive as long as queen cells are wanted. The queen cells in the queenless hive, are to be cut out as soon as capped, and placed for safe keeping in Dr. Jewell Davis' *Queen Nursery,* or placed in divided swarms, or used by any other of the known means of safe keeping and pure fertilization. The Queen Nursery is an indispensable institution for those who may practice the raising of queens on a large scale.

JOHN M. PRICE.

Buffalo Grove, Iowa.

P.S.—In his "Review of the May number," your correspondent, Mr. Kretchmer, is certainly in error when he says that "nearly half, if not more, of our most intelligent bee-keepers prefer side to top opening hives," if by *ours* he means *American* bee-keepers. A census of enumeration would, I think, reveal the fact that at least eigth-tenths of the bee-keepers of this country, who use movable comb hives, prefer the top-opening form; and the number is annually increasing. In Europe, and especially in Germany, where improvements make slow progress, the case may be different, because there some of the most prominent bee-keepers, who as yet give tone to public sentiment, are so wedded to their antiquated notions, and so prejudiced against *innovations*, that they cannot give any ideas not originating with themselves a fair trial. In many matters of mere practice they stick just where they stood thirty years ago. Dzierzon to this day rejects the Berlepsch frames; and Berlepsch, in turn, ridicules the Dzierzon twin hive. Dzierzon, who introduced the Italian bee, continues to regard it as at the head of the race, and will not try any other variety. Berlepsch, who failed in his first experiments with Italians, says that, except in appearance, they are not better than the common bees. So with others, in other things. These men, so eminent and advanced in some points, are in other respects fogies still. Each will probably adhere obstinately to his own favorite form of hive, and their friends will follow them. But to be governed by their example in this, is to lag far in the rear. I am glad to see that Mr. K. himself is preparing to take passage in the EXPRESS train, for he tells us that, *for his own use*, he makes "no other than side *and* top-opening hives." That will do for a start. By and by he will reach the goal. We travel fast in this country.

By "fixed" frames we understand such as are not movab'e *laterally*, but have a permanent position assigned to them, which the bees commonly make more *fixed* still by means of propolis. To adopt and use such, is to go half way back to the old box system. On that principle railroad men should abandon *steam* and run their locomotives by *horse power!*

If the spring is not favorable to bees, they should be fed, because that is the season of their greatest expense in honey, for feeding their young. Having plenty of honey at that time, enables them to yield early and strong swarms.—*Wildman.*

After a wedding, it was formerly a custom to drink honey dissolved in water, for thirty days. Hence the origin of the honey-moon.

[For the American Bee Journal.]

Robbing Bees.

Mr. Editor:—I have been experimenting with bees for the past few years, and have frequently had some trouble with robbers. This spring, however, exceeded all my previous experience. The old honey being pretty generally used up, and the new being cut off by the cold spell we have had here, made my bees more than usually inquisitive, and they soon found a weak colony. Being from home for nearly a week, on my return I found my weak stock entirely cleaned out of honey, and the bees nearly starved. I tried all the remedies I ever heard of, even camphor, an article highly recommended in the Bee Journal, all without effecting any good. I put the colony in a cellar for a few days, but when I took it out, the robbers would invariably return. I then tried a new plan, at least one altogether new to me, although others may have tried it before. I do not remember ever seeing it in print, hence I will give it for what it is worth. I first closed up the hive for a considerable time, until a large number of bees had collected on the outside; then I let them in, and after a quantity had entered I confined them till late in the day. Then let them out, which soon showed me where they came from. Having thus learned that nearly all came from one hive, I simply exchanged hives and all was well. This, however, might prove destructive to the queens, and I would therefore advise that the queens be caged in case they are valuable ones or could not readily be replaced. William Baker.

Gebharts, Somerset Co., Pa., May 18, 1870.

[For the American Bee Journal.]

Alleged Error. The Diamond Hive.

Mr. Editor:—It is seldom that I trouble the Press: only when duty calls upon me to rebut error.

It appears that in the May No. Vol. V. of the American Bee Journal Dr. Conklin has made an erroneous statement with regard to me. But as the Doctor has "bee on the brain," I will have a little charity for him, hoping that he will be enabled to make some of his mistakes right. He professes to be honest, and says that we claim to be honest or truthful people, down here in Quakerdom. This, doctor, is just what I want.

In speaking of the Michigan State Fair, Dr. Conklin say he was there and received the first premium and diploma, over thirteen other hives in competition. Now let us see about that, as he refers to as practical bee-men or Committee as there are in the United States. Well, we do not want to enter into any discussion with our friend but simply say in this article that when the doctor wants facts in the case, I will throw all the light necessary upon it—which will then have a very different bearing, and the public will think differently.

The doctor alludes to me when he says, the chairman of the Committee on Beehives at the Bee-keepers' Convention. He says that a majority of that committee was in favor of his hive, if he mistakes not. I shall not attempt to give the proceedings, as it is not necessary now. If the doctor wants the whole, and the whole only, then I will give it, so that people can form their own opinion.

But I wish to correct the error. The doctor says the chairman of that Committee was interested in territory for the Thomas hive. This is a false statement. I never owned nor applied for any territory, nor even a single hive. I had a few hives of that patent, had tested them and was enabled to judge of their merits. Furthermore, the Committee was unanimous at first in their decision; but one of them, after some time—facts need not not now be stated—hesitated to sign the report. But finally they all did agree and sign it, and it was approved by the Convention. Now does this stand as the doctor says? He has given alleged facts in the case—do they compare? I can give proof of what I have written, and he cannot. Owing to my poor health, I omit giving the facts in full, and will give the public the benefit of them at some other time.
Welcome Campbell.

Royal Oak, Mich.

[For the American Bee Journal.]

Tree Climbing and Bees in Borneo.

Thinking it may interest your readers to hear further from Mr. Wallace, I quote his description of the Dyak mode of climbing, which method is constantly used in order to obtain wax, which is one of the most valuable products of the country.

"The very day after my arrival in this place (Merryville, Borneo), I was so fortunate as to shoot another male of the small orang, the *misas kassir* of the Dyaks. It fell when dead, but caught in the fork of the tree and remained fixed. As I was very anxious to get it, I tried to persuade two young Dyaks who were with me to cut down the tree, which was tall, perfectly straight, smooth-barked, and without a branch for fifty or sixty feet. To my surprise, they said they would prefer climbing up it, but that it would be a good deal of trouble; and after a little talking together, they said they would try. They first went to a clump of bamboo that stood near, and cut down one of the largest stems. From this they chopped off a short piece, and splitting it, made a couple of stout pegs about a foot long and sharp at one end. Then cutting a thick piece of wood for a mallet, they drove one of the pegs into the tree and hung their weight upon it. It held and this seemed to satisfy them for they immediately began making a quantity of pegs of the same kind, while I looked on with great interest, wondering how they could possibly ascend such a lofty tree by merely driving pegs into it, the failure of any one of which at a good height would certainly cause their death. When about two dozen pegs were made, one of them began cutting some very long and slender bamboos from another clump, and also prepared some cord from the bark of a small tree. They now drove in a peg very firmly at about three feet from the ground, and bringing one of the long bamboos, stood it upright close to the tree, and bound it firmly to the first two pegs by means of the bark cord and small notches near the head of each peg. One of the Dyaks now stood on the first peg and drove in a third about level with his face, to which he tied the bamboo in the same way, and then mounted another step, standing on one foot and holding by the bamboo immediately above him, while he drove in the next one. In this manner he ascended about twenty feet, when the upright bamboo becoming thin, another was handed up by his companion, and this was joined on by tying both bamboos to three or four of the pegs. When this was also nearly ended, a third was added, and shortly after the lowest branch of the tree was reached, along which the young Dyak scrambled and soon sent the misas headlong down. I was exceedingly struck by the ingenuity of this mode of climbing, and the admirable manner in which the peculiar properties of the bamboo were made available. The ladder itself was perfectly safe, since if any one peg were loose or faulty, and gave way, the strain would be thrown on several others above and below it. I now understood the use of the line of bamboo pegs sticking in trees, which I had often seen and wondered for what purpose they could have been put there."

The honey bee of Borneo very generally hangs its combs under the branches of the *tappan*, a tree which towers above all others in the forest, and whose cylindical trunk often rises one hundred feet without a branch. The Dyaks climb these lofty trees at night, building up their bamboo ladder as they go, and bringing down gigantic honey-combs. These furnish them with a delicious feast of honey and young bees, beside the wax which they sell to the traders and with the proceeds buy the much covet-brass wire earings, and gold-edge handkerchiefs with which they love to decorate themselves. In ascending *durion* and other fruit-trees, which branch off from forty to fifty feet from the ground, I have seen them use the bamboo pegs only, without the upright bamboo which renders them so much more secure."

In Celebes, he writes, "flies and bees are abundant, and of these I daily obtained new and interesting species." He also mentions finding bees on many of the islands, which I presume were *Apis dorsata*, as he says nothing to the contrary.

Those who have experienced considerable excitement in handling queens of rare beauty, will appreciate the following, from the same author:

"About the beginning of January I found a beautiful shrub with large white leafy bracts and yellow flowers, a species of *Trussænda*, and saw one of these noble insects (a new species of Ornithoptera or bird-winged butterfly) hovering over it. I found it to be as I had expected a perfectly new and most magnificent species, and one of the most gorgeously colored butterflies in the world. Fine specimens of the male are more than seven inches across the wings, which are velvety black and fiery orange, the latter color replacing the green of the allied species. The beauty and brilliancy of this insect are indescribable, and none but a naturalist can understand the intense excitement I experienced when I at length captured it. On taking it out of my net and opening its glorious wings, my heart began to beat violently, the blood rushed to my head, and I felt much more like fainting than I have done when in the apprehension of immediate death. I had a headache the rest of the day, so great was the excitement produced by what will appear to most people a very inadequate cause. It is true that I have seen similar insects in cabinets at home; but it is quite another thing to capture such oneself, to feel it struggling between ones' fingers, and gaze upon its fresh and living beauty—a bright gem shining out amid the silent gloom of a dark and tangled forest. The village of Dobo held, that evening, at least one contented man."

And now I fear our matter-of-fact men with no poetry in their nature, will have their patience exhausted, and cry for something more practical about *Apis dorsata*. But our knowledge of this species of the honey bee is as yet too limited to satisfy their curiosity. I will however endeavor to make out a good case for them, and think there may be some extenuating circumstances in their favor, fully justifying their ferocity in the instances given by Mr. Woodbury.

E. P.

New York.

[For the American Bee Journal.]

Novice and Honey.

MR. EDITOR:—We are now, at this date, (June 11,) revelling in a flood of sweets, the product of the united efforts of fifty strong stocks of Italians and hybrids.

We have just now completed our first thousand pounds (1,000 lbs.). We put it up mostly in small wide mouthed jars, holding one pound each, which retail readily at twenty-five cents, and are just the thing when a little is wanted for sickness. We get the jars, pound and two pound, from Messrs. Fahnestock, Fortune & Co., Pittsburgh, Pa. By taking a quantity the expense is but a trifle. A very neat gummed label is made by Messrs. Seaton & Walton, Salem, Ohio, at a price far below what ordinary printers would charge for labels without gumming. Our fifty stocks average about four pounds each on a fine day, so that you see that two hundred pounds per day keeps us pretty busy.

We have a great many visitors, as our way of managing bees is quite a "sensation." We have many times thought that we should like to have them to come all at once, and then we should not have to explain and answer questions so many times over.

And just here, Mr. Editor, permit me to say, although it may seem harsh and unkind, that it is quite impracticable for me to answer all the letters of inquiry received, sometimes a half dozen a day, all asking the same thing, perhaps, and the replies would require a long letter to each. Would not the queries be much better asked through the Journal? Any such inquiries we will answer in full to the best of our ability.

And now, Mr. Editor, we are going to invite you and as many of the readers of the Journal as can conveniently, to make us a visit and go through our apiary, melextractor and all. 'Tis a fine June morning, and we will go ahead and "operate" just as though you were not around; and, so far as we can, will try and anticipate your questions.

Here we are, and here are our tools; very simple it is true, yet they suit us very well, and when we happen to mislay one of them, we find to our cost that they are very necessary.

We first put our pants inside the tops of our stockings, (no remarks about our looks, if you please; and, by the way, we are going to insist that not one of you shall say one word about anything you see, at least for to-day,) as the the young bees have an "*on*pleasant" way of crawling on things indiscriminately. That long turkey-quill is not to stick in our cap, but to be put in our left-hand vest-pocket, and in the right-hand pocket we place a small screwdriver, such as is used with sewing machines. A millinet veil with rubber band around the top, to slip on our hat, completes the outfit, when tucked inside of the collar at the lower edge. It is true, we can work without the latter; but those same young bees in a person's neck and hair are rather a bother. What, hives flat on the ground? Is that the best way? In our opinion *certainly*, as you will see presently. We do not know how we could have them stuck up on stakes and benches, if we wanted to.

This hive was emptied of every drop last Monday, so that the sealed honey you see here has all been gathered in five days. We prefer to take it out just before sealing, or when it shows only a little sealed near the top of the frame. Yes, they are inclined to be a little cross when the hive is first opened: but observe that when we shake the first frame full on the sawdust in front of the hive, they become alarmed, even if hybrids, and commence filling themselves with honey. So we are all right. No jarring the frame while removing it. Now, holding the projecting end between the thumb and finger, slip the middle finger down against the end-piece of the frame to prevent them breaking apart, as they will sometimes do when very heavy. All the bees cannot be shaken off, so here the turkey-quill comes in play. While the frame is held in the left hand, the bees can be brushed away by the other; and, as many of them will go right back if we stand here, we will meanwhile walk towards the melextractor. A lady has charge of that, uncaps the cells and removes the honey, being careful not to throw out the unsealed brood; and does this better probably than you or I could. No, we cannot sell that knife, used for uncapping, but you can easily make one. Get a long thin-blade knife (cost sixty cents), bend it twice near the handle, so as to stand like a trowel (keep a wet cloth around the blade meanwhile, so as to prevent drawing out the temper, after removing the handle); now grind both edges as sharp as you can, refit the handle, and your troubles are over.

As soon as we get out three or four frames, we commence bringing them back and fill up the vacant side for the bees to cluster on. Save all drone comb for the second story. When basswood commences to blossom, we shall only remove the honey from that. We wish now to get all the white clover honey we can, and let the bees take theirs from some other source. If any sealed drone brood is found, after emptying the honey slice their heads off. There will be drones enough any way.

We are informed that the honey is up to the wirecloth; so the whole inside is lifted from the melextractor, and the contents poured into a large can with a fine wirecloth strained over the top and a faucet in one side. A tin basin, with a circle of the glass jars set inside, is turned as fast as one jar is filled, to the next; and while they are filling, the girl who presides over them corks them, and puts on the labels. Do not stop to look at her too long, or she may get embarrassed and let the jars run over into the basin—which is nothing serious indeed, only some trouble. We had six hundred labels printed for white clover, and they are all gone now, and this is only June 11th. Good for the bees.

We are going to prevent swarming as far as we can, but when they get determined on it, remove the hive and give them a new one and a new queen. We find queen cells in many of the hives now, but remove them all.

Now, as we have had our say, any further questions, to be answered through the Journal, will give us great pleasure.

One thing more. On the 5th of June we noticed that the red clover blossoms contained an unusual quantity of honey. In fact, quite a large drop could be squeezed out; and on looking over the yard we found a great number of Italians very busy on them. We immediately started for a clover field, but were prevented from making any observations by a thundershower—the first rain we have had for two weeks. As we have had considerable more since then, the bees have not worked on them any longer; so that our clover honey may be in large part red clover after all.

Hoping to be able to give you as favorable an account next month; and that all the readers of this are doing equally well, is the hearty wish of

NOVICE.

* * *

[For the American Bee Journal.]

The Langstroth Patent.

MR. EDITOR:—As you have inserted Mr. Langstroth's claims in the February number of the BEE JOURNAL, vol. 4, and as every new beginner should be posted in regard to any patent hive that he may purchase, and not "go it blind"; and, furthermore, as I have a great many inquiries from new beginners, about whom to purchase the right to the movable combs from, &c., &c., suppose, at my request, you publish the following paper.

I wish to have the reader distinctly understand that there is no collusion between Mr. Langstroth and myself; or, in other words, that I am not an agent for Mr. Langstroth, and have no other object or interest in recommending his patent than to see the right (or what I believe to be right) prevail.

We are all more or less interested in this matter. I have yet to see a hive that I think is any better than a hive on the Langstroth principle. We can, any of us, *vary the form* to suit our own whims. As the old Indian said, if you all thought exactly as I do, you would all be after my squaw; and then there would be an awful muss for sure.

ELISHA GALLUP.

Report of the Patent Office Examiner in Charge.

UNITED STATES PATENT OFFICE,

September 29th, 1866.

In the matter of the application of L. L. LANGSTROTH *for the extension of Letters Patent granted October 5th*, 1852, *and re-issued May 26th*, 1863, *Improvement in Bee Hives.*

The examiner in charge of the class to which this case belongs has had occasion at various times, as at the present, to investigate the claims embraced in the patent upon which the application is based, and has been unable to find anything in the archives of this office, of prior date to the grant of the original patent to this applicant, which could in any way interfere therewith.

These investigations developed the fact that Huber, Munn, and others, prior to such grant, had used comb frames, but in the re-issue above referred to, these were cited and described by this applicant, and the difference was so clearly defined in the specifications and claim that it was not deemed possible that any misapprehensions as to the scope of the claim or of the invention could arise, nor does any explanation thereof appear to be necessary now. There can be no doubt that the action of the Office in allowing such claim was correct, in view of the information then in its possession, and it only remains, therefore, in determining the question of novelty, to consider the evidence developed by the opposition; and before doing this, it may be remarked that in all other points, this application appears to be one of those peculiar cases especially contemplated by the statute in its provisions for the extension of monopoly.

This much is premised, and further, that in view of this fact, the evidence upon the question of novelty which should lead this Office to refuse the grant prayed for should be such as that not a shadow of doubt could remain that this applicant was not the original and first inventor of the improvements in controversy; it should be clear and unmistakable.

Any attempt to analyze or do justice to the testimony of the opposition, or to do more than briefly state conclusions in the brief time allotted for presenting this report, would be utterly impracticable. It might perhaps be sufficient to state that the mass and weight of evidence offered by the opposition comes from interested parties; parties to, or interested in, conflicting patents, who have laid themselves liable to suits for infringements, and it is yet an open question, undecided by the courts, whether or not they can use the inventions in which they are interested without license from this applicant; this, in connection with the fact developed by the rebutting testimony, and by the exhibits, such as letters, publications, &c., showing that at one time or another, since the invention began to be appreciated, they have directly, or by implication, conceded priority to Langstroth, and in some instances, as in case of the Harbisons, have applied for rights under the Langstroth patent, deprives their subsequent depositions, now presented in opposition to this application, of any claim to consideration. There is one principal witness, not embraced perhaps in this class above referred to, whose deposition would seem to require at least some notice; that of E. Townley, and of those brought forward to corroborate the same, were it not for the fact that when confronted with the facts developed by the cross-examination, and by the rebutting testimony and exhibits, its bears its own contradiction on its face. A few instances are cited, as serving to show the correctness of this conclusion. He says that in 1848, and for several years afterwards, in New York city, and subsequently, at Mount Auburn, near Cincinnati, he made a hive called "Townley's Patent Premium Hive," which contained the identical features covered by the Langstroth Patent so far as relates to the movable comb frames and spaces; that the hive so called and so marked was the "same hive"; in answer to this, this "same hive," is produced on behalf of this applicant, and it is perfectly evident upon examination, that this hive never did contain the features which he swears it did, and never could have contained them. This is further established by testimony showing the purchase from Townley himself, and continuous use since, of this and other hives of the same construction as this.

If this statement of Townley be true, it is a little remarkable, that of all the many hives which he swears he so made, not one is produced to substantiate him, when such rebutting exhibits are so easily produced. Townley's work on bees published in New York in 1848, where he swears he still continued to make and sell movable comb frame hives, described two constructions of hives, neither of which embraces anything like the features in controversy, but one of which is the "Townley's Patent Premium Hive," which he swears is the "same hive." There appears no excuse whatever for this witness, unless it be found in a desire to appear consistent with himself. He made a hive marked Patent, &c., as above, but admits upon re-examination that it was not patented. He has published "Townley on Bees," which purports to be "copyrighted," which he admits never was; he advertised in that book to sell individual rights for "five dollars cash," when he had no right himself, that he could dispose of; and now, to be consistent, he sets himself up as prior inventor of a thing which his own admissions, made at the Chicago Fair in 1859, in the presence of gentlemen whose testimony is unimpeachable, show conclusively that he never saw, until long after the original patent to this applicant. The conclusion is irresistible. Such testimony on the part of the opposition, and this representative of the whole, becomes an argument, and a strong one, in favor of this applicant.

There is one evidence of conscience on the part of the opposition which deserves mention, viz., the case of McDaniels: he swears that he saw movable comb frames, as Langstroth uses them, when he was a boy. He identified the invention fully, and swears positively; but when called up to hear his deposition read, takes it all back and swears he is satisfied there were no frames, nothing but cross-sticks, in the hives he saw.

The examples above given are sufficient to indicate and stamp the character of the testimony offered by the opposition.

The testimony established beyond question the value and importance of the invention to the bee-keeping public. Even the opponents to the application are compelled to admit that it is one that is revolutionizing the system of bee-culture and rendering it popular and profitable, and unquestionably one for the discovery and introduction of which this applicant has received nothing approximating an adequate remuneration, and scarcely a bare subsistence, as the result of untiring effort to introduce it and to instruct bee-keepers in its use.

The above is believed to cover the ground required of this report as far as is practicable, without going into careful analysis of the whole testimony and this believed to be unnecessary in view of what is herein stated.

Respectfully submitted,
Addison M. Smith,
Examiner in Charge.
Hon. T. C. Theaker, Com. of Patents.

[For the American Bee Journal.]

Italian Bees, Questions, &c.

Is the allowed superiority of the Italian bees a *natural* quality, or only the result of *circumstances?* People here have thought that changing the locality of bees once in a few years, was productive of good. One case I will mention. One very poor year, a man who had a dozen or more swarms, gave one to his daughter who was married. Others had let here and there a swarm, all of which were moved; and it was noticed that all those moved swarmed, while those not moved did nothing. The bees thus swarming showed no superiority in the spring over those not moved. If Italian queens are imported, or raised here and sold, the mother of the new queen has changed her location; and that, I judge to be equal to changing the swarm.

Again, is there not an advantage in mixing and crossing the *breed*, and not only the different breeds, but the *same breed*, by mixing bees from the home apiary with those from a distance. I see "friend Alley" guards against the too frequent breeding *in and in* of his Italian bees. It is said that the human family will degenerate where there is a succession of marriages between near relatives. Most bees are Italianized by *crossing* them; and is not that circumstance a reason for their superiority? And after Italian bees shall have become common in a given locality, would there not be an advantage in changing them back to black bees, by gradual process?

While some complain that their Italian bees, reared from queens purchased, were not so good as native bees, others have suggested that queen raisers had better sell fewer queens and at higher prices, and be careful to breed from *prolific queens* only. Is not that *circumstance* in the case, of great advantage; and would not black bees be as much benefited by the same means? Would there not be another great advantage in breeding not only from great breeders, but from great *workers* also? Some bees here are greatly given to swarming, and others to making large quantities of honey. If these two last qualities could be combined, I think our stocks would be much improved.

I have now asked my questions, and made some suggestions. I hope some of the *knowing ones* will answer—not objecting, however, to any one that will kindly favor us with an answer.

My main question is, is the superiority of the Italian bee a *natural* quality?

Alonzo Barnard.
Bangor, Me., June 1870.

[For the American Bee Journal.]

Some Thoughts on Bee-culture.

I have kept bees a good many years, and wish to give you some reflections, the results of my observations and experience. Hives, whether straw, box, or any kind of patent, should not be set nearer to each other than about four feet, nor higher from the ground than one foot. It will then be more convenient to work among them, and young queens will be less liable to mistake their homes and be lost. They should be sheltered from storms and the sun. Every hive should be raised from its bottom board once or twice a month, during the working season, that any moth-worms found there may be destroyed. The bee-moth is the great pest of the apiary, when the bee-keeper is careless and slovenly. It is particularly injurious to weak stocks, and such should be more frequently examined, and the worms destroyed.

I think bee-keeping is a paying business, if carried on right. But hardly one farmer in a hundred takes proper care of his bees. That is the reason they lose their stocks, and leads them to say bees are unprofitable. If I had a thousand stands of bees I would bid farming good-bye, for I am satisfied I could then make money and have easy work. Perhaps bee-keepers should be glad that all men do not like bees, for if they did we could not get ten cents a pound for our honey, there would be so much made. I sold eight hundred pounds last season, at twenty-five cents a pound, besides having as much as the family could use. I have three kinds of patent hives—Keith's, Beard's, and Van Zimmerman's, and like them very well. Patentees should furnish cuts of their hives, as we could then better understand the description of their inventions, and form some opinion of their value.

Bees did exceedingly well in these parts last summer. I have taken the American Bee Journal for three years past. I like it better than any paper I ever took, and so long as it is published, I must have it. I would advise all bee-keepers, and all who intend to keep bees, to take the Journal, and read it carefully.

A. J. BRUNDIGE.

Ottawa, Ills.

[For the American Bee Journal.]

Wintering Bees.

I read every article in every number of the BEE JOURNAL, but none with more interest than those that give us facts in regard to the production of honey and the successful wintering of bees.

The ultimate object of all bee-keeping is the production of honey; and the most that any bee-keeper can do, to promote this production, is to provide suitable habitations for his bees, and to take the best possible care of them through the winter. He can do nothing to change the instinct of the bee, and nothing to alter the character of the honey season. If the season is productive of honey, he rejoices; if it is not, he has only to submit—he can do nothing to change it. But in wintering bees, the case is different. In this matter the bee-keeper has full power, provided he has the requisite knowledge. He may cause the loss, unwittingly, of every stock; or *he may save every one.*

This last statement may be thought a strong one, but I think it is true. A colony of bees, to live through the coldest winter, need simply plenty of *good* food, but not too much; sufficient warmth, pure air, and dryness. If the preceding season has been favorable, every colony worth saving will have plenty of good food. If it has been unfavorable, feed them a sufficient quantity of sugar syrup, as soon as the honey harvest has closed. Having now a supply of good food, the bees will generate their own warmth sufficiently in the coldest weather. If left on their summer stands, they will certainly get the necessary pure air; and if properly ventilated at the top and bottom of the hive, they will keep dry. I believe no colony has ever died in winter, unless one or more of the above four conditions were wanting. It would seem an easy thing to provide those conditions for every colony of bees, every winter, and so lose none. Yes, that is just my opinion. Must we have a bee-house or a cellar to accomplish this? Just as you please. A nice bee-house is a convenient thing to have, but I do not consider it necessary. The best one ever made can furnish only *one* of the above requisites, namely, warmth; and thanks to Mr. Langstroth, we can get that out doors, much cheaper and with much less trouble, by removing the honey-board, placing two small sticks across the frames, and before replacing the cap, covering the whole top of the hive with old carpeting, or batter with the cotton batting comforters, described in a previous number of the Journal. Then by leaving the entrance open three or four inches, we get the requisite fresh air, ventilation, and dryness. I wintered twenty-seven colonies in this manner last winter with perfect success, losing not one, although five of them were queenless, and several others weak in bees, owing to the failure of the honey harvest last year. My queenless and weak colonies have been strengthened up with frames of brood from strong colonies, so that now all are in fine condition.

Notwithstanding my efforts to prevent swarming, by giving an abundance of room for the brooding chamber, viz., eighteen inches square by ten inches deep, and 3,600 cubic inches for surplus honey on top, yet I have had seven fine natural swarms up to June 8th—three of them as early as May 19. Who says that the Langstroth shallow hive is not favorable to early breeding?

Bees wintered on their summer stands have one great advantage in the matter of frequent evacuation; thereby avoiding a tendency to dysentery—which is merely an inability to retain the fæces. My bees were observed flying on twelve days between December 26 and March 30, when they made their *general* spring flight, as follows:

Dec. 26.	Therm.	48°	a few bees from all the hives
" 27.	"	43°	sparingly.
Jan. 2.	"	51°	rather freely.
" 17.	"	54°	freely.
" 26.	"	55°	very freely.
Feb. 7.	"	45°	sparingly.
" 15.	"	44°	"
" 16.	"	46°	generally.

March 16 to 20, thermometer at about 45°, flying rather freely every day.
" 30 general flight.
April 8 and 9, first pollen brought in.

March 13 to 15 all my hives were buried completely out of sight by about four feet of snow. March 15, dug a pathway in front of all the hives. Next day was warm, and the bees flew as above.

To be sure when the bees fly out in winter some are lost in the snow. At first this troubled me, but it does not now. I am satisfied, from close observation, that nearly all that are worth saving get back into the hive all right; and it no longer alarms me to see a few dozen or even a few hundred bees lying on the snow, dead. Many that we see thus, have died in the hive and were brought out by the living bees on the first fair day. In fact you can tell your strongest colonies at a glance in the spring by their having the largest number of dead bees in front of their hives. I think we read in the BEE JOURNAL of as great mortality among bees kept in winter repositories, as among those kept on their summer stands.

If those who winter bees out of doors would adopt the above plan, many colonies would be saved.

R. BICKFORD.

Seneca Falls, N. Y., June 11, 1870.

Bees should have a liberal allowance of air during all extremely hot weather, and if the stocks are strong the entrance blocks may be entirely removed. LANGSTROTH.

A truthful and circumstantial biography in all its relations of a single insect, has yet to be written.—A. S. PACKARD, Jr.

[For the American Bee Journal.]

Replies—Feeding, Hives, and Wintering.

In Vol. V., No. 12, page 262, Mr. T. Woodey asks, "when is the right time to feed, spring or fall?" Since I commenced using movable comb hives, I have always preferred and practiced equalizing stores in the fall; that is, taking well filled combs from heavy stocks, and giving them to the light ones, even if I had to feed both in the spring. Consequently I prefer spring feeding, and even summer feeding, if required; and summer feeding is oftener needed than most bee-keepers are aware of. Sugar answers every purpose for spring or summer feeding. Good coffee sugar is best; yet almost any sugar will answer for stimulating.

Which is the best hive, is, or appears to be, still a disputed question. Every patent hive man claims his to be the very best in use—far ahead of all others, &c., &c. But to tell you the honest truth as I understand it, I have never yet seen anything in the shape of a hive, that beats the Langstroth hive. Although I prefer a different form from that which Mr. Langstroth uses, still it is a Langstroth hive for all that. And as you are a beginner you must understand that the same *form* that suits one man will not suit another; or as the old Indian said we would be all after one squaw, and then you know there would be a muss in the wigwam. You will find the Langstroth cheap, simple, and efficient; and this cannot be said of all other hives. In fact, it will not require an engineer to run the machine; or, in other words, an inexperienced person can handle one.

In the cellar or a special repository properly constructed above ground, is the best place for wintering bees, because of the saving of honey, if nothing more. I can winter bees in a cellar, and not have them consume over one pound per month, either a strong or a weak swarm in the form of hive that I use; and you ought to learn to do the same. But I want the management of the swarm myself the previous season. The fact is, that if bees have the right kind of ventilation, both in the hive and in the cellar, they remain in a semi-torpid state, as it were throughout the entire winter, even as long a winter as the past one was. My bees were lighter in stores last fall than I ever had them before (that is, a dozen swarms or more.) I set them in a month earlier than common, and set them out a month later; yet I wintered every swarm.

E. Gallup.

Orchard, Iowa.

[For the American Bee Journal.]

Who has the Best Bee-Hive?

"I have!" rings out from a thousand tongues. Well, gentlemen, I must beg to differ; and as nearly all of you have had your say, with the editor's permission, I will tell you what I think. Nearly all the hives offered for sale are too complicated, have too many "fixings," and hence are more or less troublesome to operate. With many, more or less bees are killed every time they are opened and the frames taken out. Others again are so novel in their construction that one is at a loss to determine whether they were designed for bee-hives or butter churns. Probably all may have some good points, but I am quite certain that many, as a whole, are worthless.

Now, I have a bee-hive: and doubtless most of you have heard of it. It is patented both in Canada and the United States. It is the principal hive in use in Canada, and has taken six first prizes at Canadian Provincial Fairs. I believe it to be the best hive in America. So far as my knowledge extends, there is not a hive patented in Canada or the United States, that compares with it in simplicity, and yet has so many advantages, except the Langstroth hive. And while it is just as simple as the Langstroth hive, in construction, it has some advantages which that has not, and in my opinion is an improvement on that hive. The following are some of the advantages:

It has a movable bottom board, against which there cannot be raised one valid objection. It has but one entrance for the bees; which may be enlarged to twelve inches long by half an inch deep, or contracted to half an inch square in a moment, by a metal slide—shutting out drones, or shutting in the queen at your pleasure. The frames are regulated at equal distances apart, and yet admit of a lateral or side movement as easily as in any hive. The frames are far more easily removed than from the Langstroth hive, and only have one bearing upon a sharp edge at the top, where it is easily seen when putting in the frames. It is ventilated according to scientific principles, and never gets out of order.

Now, gentlemen, have I not got the best hive? "Oh," says one, "you have hives for sale." No, not one in the United States; but I have territory for sale (see advertisement), and it must be sold. It is, however, my honest conviction that most of the frame hives brought before the public are too complex and difficult to operate with. As I have before said, I say again that where there is one better hive than the Langstroth, there are fifty inferior ones and fifty worthless ones.

J. H. Thomas.

Brooklin, Ontario.

[For the American Bee Journal.]

The Queen Nursery.

Mr. Editor:—One of your correspondents on page 256 of the American Bee Journal, Vol. V., gets terribly sensitive over patent rights, and especially over the Queen Nursery.

He admits that "in theory the matter seems very plausible," and then asks, "how about its practical applicability?" and then proceeds to settle its practical applicability in the following logical, scientific and respectable manner: "Two years ago, as I remember, Mr. Adam Grimm, of this place, used an arrangement substantially similar, and in so far anticipated the doctor. But he soon discontinued the use of it, as not fully answering the purpose; and as I know Mr. Grimm to be a thorough apiarian, I can scarcely think that others will be more successful with the new device."

Well, who can stand such a strong, logical, knock-down argument as the above? Friend Grimm, with a *substantially similar* invention failed, therefore Dr. Davis must fail, and all others who have *successfully used* it must fail in its use! But how does Mr. Wolff know that my "Patented Queen Nursery" is substantially similar to the arrangement used by Mr. Grimm, since he never saw mine? Can he testify to facts in this case before he knows them? If we admit such testimony it might be productive of much mischief.

But, again, a little variation in arrangement of similar instruments or machines may entirely change their utility in certain directions. This shows that Mr. Wolff drew his conclusions prematurely, before the premise was laid that would overthrow the practical utility of my invention.

Mr. Wolff proceeds—"Moreover according to the description given, though we may secure an increased number of colonies, we shall not obtain supernumerary queens for market, unless we rear them specially, and this with more or less damage to the colony, by depriving it of its fertile queen."

Where did the *description* given say that we could *not* obtain supernumerary queens for market, unless we rear them specially? This is another conclusion reached before the premise is given, by me, at least. It is unfair to infer that I had given such a description, when I had not, and assume it as true before the world, and that, too, in public print, where it can never be fully recalled, if ever desired or required. If by my invention I can raise queens to *increase colonies*, will it not hold good to raise *supernumerary queens for market*, without throwing in that word "especially," to deceive the reader's mind about the value of the Queen Nursery?

Where, too, in the *description given*, did Mr. Wolff find that I said, or represented that the fertile queen, in order to raise supernumerary queens, must be removed from the colony to its damage? Here is another position *inferred* and assumed as true, when there is nothing of the kind said by me in that description. Would not true statements and facts be better weapons to destroy my patent with? In the next place, Mr. Wolff proceeds to represent that Mr. Grimm "subsequently employed a process practically much more serviceable" than the Queen Nursery, or the substantially similar arrangement of Mr. Grimm, I suppose, of course. But upon this point I shall neither affirm or deny until I *know* the truth. Then comes the famed counsel of Mr. Wolff, what he would *do* instead of employing Dr. Davis' plan.

Well, I give *him* the privilege of "following the counsel of his own will," and let his colonies accept his proffered queen cells as they generally do, or destroy them as they *sometimes will*.

But now comes the *horror* of *horrors*, that "patenting everything about bee-hives, and particularly the process for raising queens. Oh, the fears of "litigation" and "perplexing discouragement to bee-keepers," when shall it end?

Now, Mr. Editor, I can see no good reason why Mr. Wolff should so particularly pitch into me and my invention, unless it is found in the fact that friend Gallup told him through the May number[*] of the American Bee Journal that I had sent him a Queen Nursery *gratis*, to try. Wonder if friend Wolff would try one, if I should send him one *gratis!*

I see no other good reason for Mr. Wolff's appearing at this particular juncture, unless, it is from his particular horror of patents. It compels him, as soon as the circular announcing their existence reaches him, while they are yet a good ways off, to pitch into them; and that, too, before he has seen them, or knows anything about their value, or the *truth* he finds set forth in the circular about the Queen Nursery.

JEWELL DAVIS.

Charleston, Ill.

Profitable Bee-keeping.

Some time since we gave an account of our visit to an apiary near Springfield, Ill. Since then, the proprietors have informed us that the product of surplus honey from one hundred and twenty hives, has been about three tons and a half. This has been sold mostly in Chicago, St. Louis, and Springfield. One shipment was made to New York, but the returns were very unfavorable. At the prices obtained for our own honey, averaging about twenty-two cents per pound, we should think that the above was a pretty profitable investment.

There are several extensive apiaries in our own county. Mr. Salisbury, of Tolono, has over two hundred swarms. Dr. Chaffee, of the same place, has a large number. Mr. Porter, at St. Joe, Mr. M. L. Dunlap, at Champaign, and Mr. Cherry, at Mahomet, all have quite a large number of hives: and we believe they find it so profitable, that they are not yet ready to abandon the business. There are a dozen or more persons of our acquaintance who have from ten to fifty swarms, who intend to increase the number the coming season.

By artificial swarming none are lost; and by using the honey-extracting machine, a much larger quantity of honey can be stored in a given time. The honey is thrown out of the comb by centrifugal force, and the empty comb is then returned to the hive.

Some wise "beeman" has estimated that it requires a consumption of fourteen pounds of honey to make one pound of comb. If this be true, it is easily seen that a large saving will be made by using the honey-emptier.

Much has been said of late years about the value of Italian bees, while there are some who claim that they can and *do* gather more honey than the black bees. Our experience does not confirm this. The principal value of their introduction, in our opinion, consists in diffusing new blood by crossing. Bees, like everything else, deteriorate by in an in breeding.—*Champaign County* (*Ills.*) *Gazette*, March 9, 1870.

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[*] It is only justice to Mr. Wolff to state that his communication was in our hands before the May number of the Journal was published, though received too late for insertion in that number.—ED.

THE AMERICAN BEE JOURNAL.

Washington, July, 1870.

☞ In compliance with the request of many new subscribers, we insert this month cuts illustrative of Mr. Alley's modification of the Langstroth hive, with a description of its construction and arrangement, prepared at our instance by Mr. Alley.

The "BIENENSTOCK" is a German monthly devoted to bee-culture, published at Allentown, Pa., by Joseph Kilian, at $1.50 a year. Though it has reached us irregularly and late, and the third number failed entirely, the paper appears now to have got fairly under way, and well merits a liberal patronage from German bee-keepers—of whom there is a large number in the United States.

The "POULTRY BULLETIN," is a new monthly issued in New York, by the Executive Committee of the New York State Poultry Society, at $1 a year. It is in competent hands, and must be interesting and valuable to all who keep poultry, whether for pleasure or profit.

Death of James T. Langstroth.

We are pained to hear, as this number of the Journal goes to press, of the death of JAMES T. LANGSTROTH, the only son of the Rev. L. L. Langstroth, of Oxford, Ohio, which occurred at Greenfield, (Mass.,) on the 14th instant. We had learned that he was very ill, and it was not probable he would recover or long survive, but were not prepared to hear so soon of his death. We regret that he was cut off thus early in his career of usefulness, and sincerely condole with his bereaved parents on their irreparable loss.

Though we have selected and translated for this number of the Journal, two articles on the modes of securing large crops of honey, it is with no desire or expectation than American bee-keepers should adopt either in detail in their practice, or follow them empericaliy. Our purpose is rather to illustrate by example some of the chief principles involved, that these being once clearly apprehended may serve to guide beginners intelligently in their operations, leaving them free to make such modifications or deviations as shall, on reflection, seem to them expedient or likely to prove advantageous.

We intended last month to say that we shall be pleased to receive further communications from Southern correspondents. We need more information concerning bee-culture in the "sunny South," where it should be making more progress than it appears to be doing. It is hard to understand why it is thus laggard in a section of country where bee pasturage is so abundant, so diversified, and so prolonged. May it not be because most of the more intelligent class of the community there have not hitherto given the subject deserved attention—have not in fact, made it a study? It may be that, for the South, some peculiar mode of management is needed—a special adaptation of what has been gained from experience and observation. If so, frequent and full discussion of the methods and processes prevalent there in practice, would probably elicit suggestions leading to a beneficial change.

From a recent careful enumeration it appears that in the City of Nuremberg and the eighty-four villages in the immediate neighborhood of that city *three thousand and five* hives of bees are kept. Of these eleven hundred and eighty are movable comb hives, and the remainder ordinary box or straw hives.

Bees in Bavaria.

According to the official returns for the year 1863 (the latest published), the number of colonies of bees in the kingdom of Bavaria, was as follows :—

Upper Bavaria	52,665
Lower Bavaria	31,435
Bavarian Palatinate	21,074
Upper Palatinate	22,861
Upper Franconia	16,100
Middle Franconia	25,763
Lower Franconia	28,367
Suabia and Neuburg	34,874
Total	233,139

☞ HEARTH & HOME for this week (dated June 25th), contains the first of a series of sketches entitled *Jethro Throop's Night Thoughts*, by JOHN THOMAS, who is no other than PETROLEUM V. NASBY The great humorist will take an honest country boy to the city, conduct him through the usual experience, and restore him to his home a sadder and wiser boy, satisfied that the peaceful, honest, and temperate life of the farmer is the best and safest life that can be lived. This is a lesson greatly needed at this time, and NASBY is the man to teach it.

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CORRESPONDENCE OF THE BEE JOURNAL.

NATCHEZ, MISS., May 21.—I believe it is acknowledged by apiarians that next to movable frames, ranks the invention of the honey extractor. Sometime since, I ordered one from Mr. J. L. Peabody, Virden, Ill., which reached me on the 19th of April and was at once put in use. I am highly pleased with it, it came fully up to my expectations, and would recommend it as being superior to any I have yet seen constructed on any other plan.—Last year I had in use one made after the first designs published, and used it successfully, but have now cast it aside. I would suggest, however, that the wire cloth used should be of a mesh not more than six to the inch which I find to work far more satisfactorily than finer cloth, especially in extracting thick honey.

The swarming season with me is now ended. With few exceptions, all my swarms have issued naturally. I never have any first swarms to leave without settling, and that without noise of any kind, giving ample time to secure them. My apiary now numbers eighty hives—six not having swarmed yet. My purest Italian stock threw out a very large swarm on the 27th of March; and on the 30th of April this new stock threw out a swarm, after first filling several boxes with beautiful surplus honey—the old queen leading both swarms. This is another recommendation for the Italians. Of the remainder of the hives in the apiary, the first swarms commenced issuing on the 6th of April, and were hybrids—the blacks coming out some days later.

Our spring has been backward. Honey gathering was good three weeks ago, but on account of a very dry spell, with cool nights, the bees are accumulating nothing now. For a week past the drones in most of the hives have been driven out. June has always been a good honey gathering month here. I have observed that about the middle of July the queens cease laying almost entirely, and every available cell is filled with honey throughout the hive. After that period no more surplus honey is accumulated, though an abundance is to be had to supply their wants until winter comes on.—John R. Bledsoe.

Knightstown, Ind., May 31.—We have had a very dry spring so far. In fact we had only about two inches of rain fall in the last two months; and the flowers do not secrete honey as if the weather had been warm and moist. But in the last few days the nights have been cool, and there seems to be a difference in the working of our bees. So far the weather has been rather unfavorable to bee-keeping, this spring. There appears to be a fine crop of white clover bloom, but the bees have not stored any honey from it yet. I hope for the better.—J. C Deem.

Kingsville, Mo., June 4.—Bees came out strong here this spring and bid fair to do well, but the weather has been so very dry for some time past until a few days back, that they have not yet commenced swarming. Bee-men in this section seem to be taking more interest in their bees than usual, though few have yet obtained the Italian bee yet, and the common drum or box-hive is still almost universally used. During the past two seasons, however, a few have been using the movable comb-hives, and are delighted with them.—This spring the country is flooded with all manner of patent hives. Nearly all, if not all, have their moth traps connected with them, warranted to *out-wit* the miller in his efforts to get into the hive. I regard the traps as humbugs, and most of the hives. —D. B. Reavis.

West Chester, Conn., June 6.—In the Bee Journal the machine for emptying honey from comb, has many commendations, and about as many names—namely, honey-emptying machine, honey extractor, honey slinger, melextractor, smelatore, &c., &c. Now, why not call it Hruschka (pronounced Rooshka). Many have had their names attached to their inventions. Daguerre has his name immortalized, in the daguerreotype, and bee-keepers will doubt whether his invention is more of a boon to humanity than that of Major Von Hrushka. I wish we might hear no more of honey slingers, melextractors, &c., but instead thereof let us have Rooshka, an honor justly due to the illustrious inventor of a most valuable machine.—W. H. Kirk.

New Bedford, Mass., June 8.—I received the last number of your interesting and valuable paper to-day, and hasten to send the subscription for Vol. VI. My friends say that I have "bee on the brain;" but if being exceedingly interested in the wonderful and invaluable instincts of the bee is bee on the brain, I confess to the disease. If, however, they would take the Journal, and read it as carefully as I do, they also would suffer the same malady. I think *now* that they begin to show incipient symptoms, for several have applied for swarms; and the next stage will be the application for the Journal.

Bees have swarmed earlier and better so far, this season, than for quite a number of years, in this locality.—E. P. Abbe.

Springfield, Ills., June 10.—We appreciate the Journal here, and like it for its independence and freeness from axe-grinding; and sincerely hope the subscription list will soon warrant the issue of a semi-monthly or weekly.

Spring opened early and dry here. Bees come out of winter quarters in good condition. Blossoms lasted only a short time, owing to the drouth. Bees are strong in numbers, but backward about swarming.—G. Ayres.

Danvers, Mass., June 13.—The season has again arrived when those who keep bees expect to get some profit from them, either in swarms or honey, and perhaps some account of our success or failure might not be uninteresting to your readers.

Our first swarm of bees was found on a heap of brush on the first day of July, 1857. No schoolboy was prouder with his first jacknife, than we when we carried home our first swarm. The next year our hive swarmed once, and from so small a beginning, we have continued bee-keeping, with various results. We have purchased six Italian queens, and have at this time nine Langstroth hives. Last fall we had eighteen colonies. Five of them being out of doors, we concluded to winter them in a building, it being a large out-house clap-boarded and pretty warm. Those wintered in this outhouse came out all well, and of those wintered in bee-houses, we lost two, making our stock in the spring sixteen hives. We have had, to this time, seven swarms. Two came out yesterday at about the same time, and went together.

Our stocks are all in good condition, and the bees are working in the surplus honey boxes, except those just swarmed. We had one swarm issue on the 20th of May, but the queen being heavy, fell to the ground, and the swarm returned. Having found the queen, we drove a swarm out, and by exchanging the old stock with another strong colony, brought them into good condition again.

There is every prospect at this time of a good honey harvest here in Massachusetts, for which we most devoutly hope, as we have not had a really good honey season for five years. And now, Mr. Editor, the time has arrived to renew our subscription for the Bee Journal, for I do not see how we can do without it. You need not be afraid that I will mistake your Bee Journal for any other, for there is no other good one that I know of. I enclose two dollars for the sixth volume, and wish you all success in your undertaking.—E. E. Porter.

Foxboro', Mass, June 13.—Enclosed please find two dollars, in advance payment for the American Bee Journal for the ensuing year. I have at various times during the past year thought of writing a series of articles for your Journal, but business has so driven me that I have been unable to do anything in that line.

The last season, as every bee-keeper knows, was a very poor one; but I was successful enough to carry all my stock, by seeing in September, that they were well supplied and fed. This spring has opened finely. The blossoms never seemed to yield so bravely, and now the white clover is setting in very thickly; and if nothing "turns up," the honey season of 1870 will be the best of the *decade*.

In my experiments in testing the virgin drone theory I have gone three generations, and find no change. I have to-day a queen of Dzierzon stock mated with a black drone, whose drones are the only one which I have allowed within miles of my experimenting stock. These drones have fertilized successively three generations of queens from the same stock, and the last generation shows as fully striped and handsome colored bees as you ever saw, although I do not think they are very smart, owing to being bred "*in and in*." But the above *facts I know;* and they prove to me that the drone egg is in no way affected by copulation.—J. E. Pond, Jr.

Verville, Tenn., June 13.—I am largely engaged in bee-culture, and have nearly all the reliable books on the subject, but prefer the Journal to them all.—J. M. Bell.

Kleinburg, Canada, June 13.—The wintering of bees last season, in this locality, so far as I can learn was truly a calamity, in consequence of the scarcity of stores through the wet and cold weather we had here last year. When I discovered that mine were short of stores, I prepared syrup of clean coffee sugar, as I got no honey, and fed them. But unfortunately I waited too long in the fall, as I still hoped the bees might collect supplies enough to carry them through the winter. No sooner had they taken up what was provided by the hand of their keeper, than cold weather ensued and prevented them from sealing it up. I am of opinion that I had better not given them any syrup, as that would have saved trouble and useless expense; but one who admires such an insect as the industrious honey bee, will do all in his power to preserve them, if it be possible. If I had anticipated any bad result from feeding them so late that they could not seal it up, I am sure it would have been done earlier. It is true I have been in possession of the theoretical knowledge that bees should be fed, if necessary, early enough to enable them to seal up what is given, while warm weather continues; but unfortunately none of the authors on bee matters that I have read, made it a point of such great importance as it appears to be. They merely say that it ought to be done, but do not state the disastrous consequences of feeding so late that the sealing cannot take place; and thus I did not expect that the result would be so bad, as in many things no ill accrues from slight deviations or neglect. I may now say, however, that if the feeding is not done so early that the bees can seal up what is given, the best way is to let it alone; for, as far as my experience goes, it is certain death to do it up as in my case.

Will it do to feed bees for winter with clean brown sugar syrup? I never saw or heard the contrary urged, except on doubtful authority. And how should syrup be prepared to prevent crystalization? This is another important point. I never was able to produce such an article even with glycerine, prepared according to a correspondent of the Journal in the number for April. But as I have not tried the syrup inside the hive, I cannot say positively that the glycerine is no prevention of crystalization. I made some and kept it in a bowl standing for three weeks, and it began to crystalize. Now would such an article be fit to feed bees on for winter? I should be glad to hear something on that point, as I am deeply interested, and so, I am sure, are many more of the numerous readers of the Journal.—C. Wurster.

Port Clinton, Ohio, June 16.—Bees are doing well here—swarming and storing honey in boxes.—P. S. Van Rensselaer.

Minnesota City, Minn., June 16.—Bees are doing very well here at present. Some Italian stocks have swarmed five times. Bees are at work in surplus boxes now. If everything runs smooth, or we do not have any drought to cut off the pasture, we shall get a good yield of honey. I shall keep a record of all the honey stored this season. I wish all the bee-keepers would do the same, and report this fall. So hurrah for the Old American Bee Journal and its readers.—W. Rowley.

Salem, N. C. June 18.—The spring opened with as fine prospects for bees, as I ever saw; and continued so until the 20th of May. Since that time we have had an abundance of rain, which has retarded swarming very much. I have had about forty-five swarms this season, and have some fifty old stocks that have not swarmed yet.—J. W. Hunter.

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[For the American Bee Journal.]

The Honey Extractor.

I see that friend Argo sort of hints that he wants Gallup to say something about the honey slinger. I have one of the Peabody machines. After seeing the description of the various kinds that is my choice. And, come to see the critter and work it, I really cannot wish for a better. Understand that there is no machinery about it; actually nothing to get out of repair, and it works like a charm. It will last any man his lifetime, providing he dies in any decent season; or if he should take a notion to live another generation, I thing the machine would still be there and ready to do service. And now, *for how I have been using the animal.* The season has been unusually good thus far; and when I have taken out two frames of brood from one of my hives and supplied their places with two empty combs, the bees would fill them with honey and in many cases two or three times, before I could bring the queen up to the scratch to fill them with eggs; and I could sling the honey out in a jiffey. In other cases, where a natural swarm has issued, before the young queen has commenced depositing eggs, every available cell would be occupied with honey; and the way I made the honey fly was a caution to old brimstone times. Here in the two cases above stated, we can see a practical use for the machine, at least I can; and can see in other cases that an Extractor is actually indispensable. The wonder is, how we ever got along without it.

I find that honey of the present season's gathering can be extracted until the comb is left almost perfectly dry. But honey that has remained in the hive from last season's gathering, cannot be taken out so clean, yet the most of it can be taken out. I have tried a couple of combs of last season's gathering, just to see how it would work. On the day I tried it the weather was quite cool—rather too cool for opening hives and working the extractor. Still I wished to try it under the most unfavorable as well as the most favorable circumstances.

Hurrah for the Old American Bee Journal—THE OLD STAND BY; the Honey Slinger; and the season of 1870! If the season holds out as it has commenced, I am all hunk-a-dori!

Elisha Gallup.

Orchard, Mitchell Co., Iowa.

[For the American Bee Journal.]

Remarks on Wintering, &c.

MR. EDITOR:—Having been so pressed with work in connection with honey extractors, hive making, and the care of an increasing apiary, I have not contributed anything, good, bad, or indifferent, to *our* valuable Journal, for some time. In the June number I find that many lost their bees the past winter. Let me give you my experience in wintering. As I stated in the January number, I wintered over seven swarms to start with in the spring of 1869, and increased them to twenty-five that season. They had nearly all twelve frames of comb each.

In the fall I emptied the honey from enough combs with the honey extractor, to place three empty ones (combs) in the centre of each hive, and though they were rather weak in numbers, I did not lose a single swarm. They stood out all winter on their summer stands. Two-thirds of them had double cased hives; and those were in better condition than the single inch hives. One hive had three apartments, with three to four frames only in each, divided with one inch division boards. They came through in fine condition with three queens each. Having plenty of empty comb, and no more honey than they needed, they were stronger than I ever knew them to be at swarming time. I went over them often, inserting an empty comb between two full ones (of brood) which kept the queen laying eggs to her full capacity.

I neve rsaw bees store honey at this season of the year, as they do at present. Inserting empty frames between full ones, the bees build a large part drone comb and fill it with honey directly. But by emptying the best worker comb with the extractor, gives the queen room to lay her full quota. The Honey Extractor has been proved to be indispensable to successful bee-culture.

I am sorry to hear of Novice's repeated misfortunes; but hope he will take friend Argo's hint as to the *day* he writes on, and perhaps he will be more successful in future.

I have now twenty new swarms, up to June 10th, and some of my first new swarms are strong enough to divide again.

J. L. PEABODY.

Virden, Ills.

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[For the American Bee Journal.]

Quinby's Queen-Yard and Hive.

MR. EDITOR:—Your correspondent "TYRO," seems not to understand how to make or use "Quinby's queen-yard." For his benefit let me say the "yard" is simply a box eighteen (18) inches square, (or less if you wish,) and three (3) inches high, made as follows: Take half-inch board or strip, three inches wide, and saw two pieces eighteen inches long, and two seventeen inches long. Nail the longer ones on the ends of the short ones, to form the sides of a box; and nail on a bottom board of thin lumber. Tack strips of tin two inches wide and eighteen inches long around the top, projecting inward. Cut a hole or holes in one end of the box, corresponding with the entrance hole or holes to your hive, so that the top of the bottom board of the box will come even with the bottom of the entrance to your hive. Place the box in front of the hive, tight to it—may hold it with a screw—so that no bee can leave or enter the hive without passing through the box. If your queen's wings are clipped she cannot leave, to lead off a swarm. She will run out into the yard, but will be compelled to return to the hive. Though the bees have clustered somewhere, they will return.

It worked so well last year that I have them on all my hives this year. Novice's plan of letting the queen run out, and finding her, will do, if he always knows when they swarm; but with the yard I need not hunt her up, and she must return whether I am at home or not.

And now, Mr. Editor, I wish I could say as much in favor of

The Quinby Hive.

If Novice suffered no greater loss than that of his Quinby hive, he need not feel much regret. I am sorry to say that I have one that I should be right glad to dispose of for twenty per cent. of first cost.

I do not profess to know all about bees or bee-hives, and that may account for my not appreciating this hive. The only redeeming feature that I can see in this hive, is the surplus box room; and that is no better than, if as good as, Hazen's.

As to its being a movable comb or frame hive, that is quite a joke! True the frames are there; and as it now stands—empty—I can take them out and put them back, tins and all, in from fifteen to twenty-five minutes. But if it were full of combs and bees, and each crack and crevice glued, as they will be after one season's use, what then? "Oh, who could the *mighty task* perform?"

Let me see, there are twenty-eight (28) strips of tin to be removed, every time you handle the frames; one-half of those from grooves between the ends of the frames, and the others on top. And all this merely to avoid Langstroth's patent! I don't wonder that Mr. Quinby refuses to publish a full description, measurement and all, of his hive.

There mine stands, in the barn. What shall I do with it. Ah, I am resolved what to do—put a swarm in it, and then cultivate *patience* in manipulating it. Happy thought!

A. C. MANWELL.

Whitewater, June 10, 1870.

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HIVE BEES DEVOURED BY HORNETS.—The Paper Hornet (*Vespa Maculata* often enters my nucleus hives, when I am rearing Italian queen bees, and captures the young queen in the midst of her little colony; usually just after she has commenced her first laying. I have seen this depredator enter the small hive, drag out the queen, and fly away with her to the woods.—JARED P. KIRTLAND, *in American Naturalist.*

AMERICAN BEE JOURNAL.

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Practical Bee Culture.

PURE FERTILIZATION CONTROLLABLE.—A HUNGARIAN PROCESS

The Bienenzeitung contains the following communication from Mr. Semlitsch, one of its most intelligent correspondents, as well as one of the most experienced practical apiarians in Germany.

Some time ago the Chevalier de Azula informed me that a Mr. John Dax, of Güns, in Hungary, employed a means of securing the fertilization of a queen bee, under his immediate supervision, by any drone he chose to select. He stated that Mr. Dax cut out a queen cell on the day before the young queen would mature, placed it in a queen cage, and let the queen emerge therein; then transferring her with a few workers to an appropriate case, introduced a drone and fertilization speedily followed.

Acting on this information, I made several experiments last spring, but failed in every instance. Then having occasion, early in autumn, to make an excursion to Penkafeld, in Hungary, I concluded to extend my jaunt nine leagues further and proceeded to Güns. I here found Mr. Dax, who received me very cordially and readily communicated much interesting information gathered by him in the course of forty years' experience in practical bee-culture—besides giving me an opportunity to examine a manuscript treatise prepared by him, embracing his observations and opinions, arranged under the head of 136 questions and answers, being literally a bee-keeper's catechism.

Of course the pure fertilization of queen bees, and the means of securing it, soon became the subject of our conversation; and he unreservedly communicated how he proceeded to accomplish that object. As he generously allowed me also to impart the information to others, I now proceed to do so for the benefit of bee-keepers generally.—The importance of the discovery, in case the process proves to be reliable, induces me to make it known at once, though I should have preferred to test it previously more thoroughly myself, under proper conditions. The few experiments which I could as yet make, failed, as it seemed to me, only because the weather was then so cold that I could not keep the embryo queens from becoming chilled in the cells; but that it is practicable to procure the fertilization of queens, by the method employed by Mr. Dax, using the requisite precautions, I regard as unquestionably true. I proceed to details.

For our purpose we need, first of all, a common cylindrical wire gauze queen cage, fastened securely to the middle of a piece of board ¼ inch thick, and having a ¾ inch hole through its centre. This board must be sufficiently large to cover the hole in the top of the hive. A second similar board serves to have a queen cell attached to its under side with melted wax, and is laid on the first mentioned board, with the queen cell passing through the ¾ inch hole—thus closing the queen cage. Next we need a tin plate six or seven inches square perforated with numerous holes so small that a worker bee cannot pass through. And finally we need a four-sided case of wire gauze or a glass cylinder, six inches wide and six or seven inches high, open at top and bottom, and having within on one side, three or four inches from the bottom, a wooden peg or spear on which a small piece of honey comb may be suspended. These are all the requisite materials.

When we are having queens reared, it is important that we should note the day on which the cells are sealed. On the second day thereafter cut out a queen cell, attach it by means of melted wax to the under side of the second board above described. Then inverting the board pass the cell through the ¾ inch hole of the first mentioned board, into the queen cage, so placing the board that the cell shall be freely suspended in the cage, with room all around and below, for the young queen to emerge when mature. With the second board then placed on the first, the queen cage is perfectly closed. Now open the hole in the top of the hive, and place the board on it, with the attached queen cage passing down into the hive as far as the board to which it is fastened will permit. Close all crevices tightly, and cover the whole with a piece of blanket doubled and securely fastened. By lifting the blanket and raising the upper board to which the queen cell is attached we may at any time ascertain whether the queen has emerged or not. On finding that she has left the cell, we wait four or five days longer, or more

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precisely, from after the third till the first fine, warm and favorable day that occurs, such as young queens themselves select for their bridal excursions. On such a day, we lift out the queen cage with all its adhering bees, cover the hole in the top of the hive with the perforated tin plate, and set the wire gauze case or glass cylinder on it; thrust into it the adhering bees from the queen cage, liberate the queen, let her pass down among the bees, and cover the top of the case or cylinder. There ought to be somewhat more than a hundred bees in the cluster. Should there not be so many, draw back the tin plate gently and let an additional number of workers pass up. Now suspend a piece of honey comb on the peg or spear, cover the case or cylinder, and place it in a dark chamber. At any time between eleven o'clock in the forenoon and three o'clock in the afternoon, a selected drone may be introduced, light partially admitted, and fertilization will soon follow. Should it not take place on the first day, the experiment must be repeated on the next, when it is almost sure to occur. Mr. Dax assures me that he had frequently used the process, and only on two or three occasions had he found it necessary to introduce a second drone, and was then invariably successful. "Make the trial," said he, "it will not fail."

Apart from the undoubted credibility of Mr. Dax, other strong reasons lead us to presume that a successful result would follow a properly made experiment. Why does not fertilization take place within the hive itself? Evidently because in the crowded condition of a colony it could not be effected without interference, leading to commotion which might endanger the life of the queen. This being so, natural instinct has provided that, for this purpose, the queen shall leave her hive Even should the bee-keeper undertake to interpose in the ordinary manner, by catching, confining and removing the queen, she would still be filled with alarm, and all her efforts would be directed to effect her escape and return to her hive—excitement and anxiety dispelling every other passion or natural impulse Whether a queen thus removed be liberated in a roomy chamber and permitted to fly among workers and selected drones, or allowed to fly in the open air, restrained only by a silken string, the desired result will rarely be attained. But by the method employed by Mr. Dax, the queen becomes neither alarmed nor excited, for she is born in a state of confinement; and when permitted to mingle with a limited number of workers, she feels herself free and companionable, yielding readily to her natural impulse to provide for the growth of the small colony. If now a mature drone be introduced, fertilization will almost certainly follow, because, from the small number of workers present, clustered too, for the most part on the inserted honey comb, no interference or disturbance need be apprehended. Such are the grounds which induce me confidently to expect a successful result.

But what is to be done when the hives have no opening at the top, or having one, have still a vacant space between it and the ranges of combs below? With hives of this kind I made my unsuccessful experiments. In these cases, I pushed the last two combs so far aside that the cage containing the queen cell could be inserted in the vacuum; and that the remainder of the space might not remain unoccupied, I cut out two additional queen cells, caged and inserted them in like manner. As the base board of each queen cage was three inches square, the three just filled out the width of the hive, which was nine inches. This, and the cold weather then prevalent, may have been the cause that the embryo queens did not hatch; they probably became chilled. They failed to emerge, and as fall pasturage was then still abundant, the workers built a comb to each cage and filled it with honey.

My second attempt was made with a queen cell in the top opening of a straw hive, which moreover contained a queen. The bees paid no attention to the cell thus placed overhead, and consequently nothing came of it. Next spring I shall prepare for the hives having a honey chamber in the top, a division board $1\frac{1}{4}$ inch thick, with a suitable centre hole, substituting it for the ordinary top division board, for the purpose of experiment. If I should then also separate the honey chamber by means of a glazed division frame, I may possibly be able to dispense with the wire gauze case or glass cylinder. But in such case the tin plate must have precisely the length of the common top division boards, and take the place of the division board with the central hole.

A. Semlitsch.

Straszgang, Nov. 11, 1869.

[Translated for the American Bee Journal. From the Bienenzeitung.]

Bees in Abyssinia.

The war waged by England against King Theodore attracted public attention in a high degree to that remarkable country, Abyssinia; but among bee-keepers few, even of those well informed of the interesting advances and improvements in bee-culture effected within a few years past, will have surmised that that country, described as so beautiful and surpassingly fertile, may possess peculiar interest for them. Yet Abyssinia is in truth the very Eldorado of the honey bee and her friends.

Old Bochar, genuine Frenchman as he was, years ago pointed out that country to my notice when he quoted from Lobo's "Travels in Abyssinia in 1728," a glowing account of the bees, the hives, and the honey there found; and, thus excited, I eagerly desired and sought for further information.

In that very unpretentious and thoroughly truthful little volume, "*Experience in Abyssinia*, from 1858 to 1868," by Thomas Waldmeier, published at Basil by C. F. Spittler, in 1869, I found this incidental remark—"Nearly every countryman keeps bees." This induced me to seek for further particulars. Waldmeier was educated at the Crishona, near Basil, and had been recommended to King Theodore as missionary-mechanic, by the Protestant bishop Goburt of Jerusalem. He occupied an important position under King Theodore, and was highly instrumental in bringing the Abyssinian troubles to a favorable issue. He now resides at Beiruth, awaiting an opportunity to return safely to the country in which he suffered much and for which he feels a strong predilection. I applied to him for information respecting the bees found there and the kind of management there prevalent." He favored me with the following letter, which I desire to communicate to bee-keepers generally, through the columns of the Bienenzeitung.

He writes under date of March 5, 1870.—"There are two species of honey bees found in Abyssinia. The one is the *domestic* or small Egyptian bee ; the other, the still more diminutive *wild* bee, somewhat resembling a large winged ant. The former abounds in the country, the latter is comparatively rare, not being cultivated. In general the *flora* of Abyssinia offers to the bees the most ample pasturage, and accordingly honey is abundant in that country. There are three honey harvests annually, and the bee-keeper calculates on obtaining about sixteen pounds of honey on each occasion, or forty-eight pounds a year from every *gaff* or colony. The first harvest occurs in November, the second in February, and the third in July—the honey differing according to the season. That obtained in November, immediately after the close of the rainy season, when pasturage is rich and ample, is bright-yellow, transparent, with an aromatic sweetish bitter taste. Peculiar sanative qualities are ascribed to this honey. That procured in February is dark brown and has a raw taste. Not much of it is eaten, as it is generally used for making wine. That obtained in July is yellowish or cream-colored, oftentimes snow-white, and is called virgin honey. Most of this is produced in the valleys and low grounds.

At harvesting, not much honey is left in the hives for the use or support of the bee. Usually all of it is taken, and the bees left to provide for themselves. The cream-colored or white honey, which speedily candies in earthen jars, is in part eaten and in part dissolved in water and used as a drink. It is also boiled with milk, and is then regarded as nutritious for the young folks. On the whole not much honey is eaten in Abyssinia, the greater part being used in the preparation of *wine* (*Petsh*), in the following manner : Take one part of honey to six parts of water, mix well, and add thereto ¼ part of the leaves of the *Gesho* tree (*Rhamnus pauciflora*) after having toasted them somewhat on a hot plate. Mix again, and expose the mass, in an earthen jug, to a moderate temperature. The *Gesho* leaves will speedily bring on fermentation, and in the course of eight days the saccharine matter of the honey will be converted into spirit, which indicate the *ripeness* of the wine, whereupon it is used as a drink. When well made its taste is somewhat like that of good cider. In Abyssinia none but the nobility are permitted to drink wine ; but as Abyssinian pride converts every Abyssinian into a nobleman, the consumption of wine, in that country, is enormous. Some, whose interest it is to intoxicate their guests quickly, use Gerona or Zaste leaves instead of those of Gesho ; but those leaves are evidently of a noxious quality, causing headache and vomiting among those who drink wine thus made. Wax is prepared only after the wine had become *ripe*, which is then passed through a filter or sieve whereby the wax is retained. It is then melted and made into tapers or candles, or sold for embalming the dead.

The *tame* or *domestic* bee is found everywhere in Abyssinia, though it seems to prefer districts elevated about 7,000 feet above the level of the sea. The hives are made by the countrymen themselves of narrow thin slices or strips of bamboo. They are cylindrical in shape, three feet long and fifteen or twenty inches in diameter, and closed at one end. These are coated inside with a plaster of cow dung, and when dry are ready for service. The bees are introduced in them in the usual manner, and left undisturbed till the time of harvest. The hives are never set in rows or groups, but in isolated positions around trees and rocks and on the roofs of houses. The supply of pasturage is very diversified, as vegetation is not only luxuriant but multifarious, though growing wild. In October, when the face of nature seems veiled in one mass of flowers, the wearisome monotonous yellow predominates as far as the eye can range. This is the color of the then blooming oil producing plants—overwhelming all other hues. Clover, rape, and the blossoms of fruit trees are abundant in season. Where the Euphorbeaceæ abound the honey gathered from the blossoms by the bees is of a poisonous quality

The *wild* or quite diminutive bee is entirely distinct from the *tame* or domestic. It is much smaller in size, and also differs in form, much resembling the ant. It builds its nest in the ground, at a depth of ten or twelve inches, leaving only a single opening or entrance, so narrow that not more than one bee can pass or repass at a time. Its comb is constructed like that of the common wasp. It produces a honey much in demand and highly prized. It is dark brown in color, very liquid, and has an acid, astringent, yet not unpleasant taste. It is considered a panacea, and used in cases of inflammation of the throat, croup, and scrofulous ailments. It acts as a mild purgative, strengthens the stomach, promotes digestion, and is thought to possess singular curative qualities. The best medicine which any Abyssinian physician can prepare for the sick is a compound of one part fifty year old butter and two parts of the wild bee's honey ! It is called *Tassme*—which when well mixed, warmed, and drank by the patient re-establishes his health—such at least is the faith of the Abyssinian.

KAYSER, Pastor.

Nieder-Weisel, May, 1870.

Every colony which has a new queen should be watched, in order that the apiarian may be seasonably apprised of her loss, and take steps to supply another.

There is always some risk in making a very large colony, that they will build an excess of drone comb, if the season is very propitious for gathering honey.

On the Form of Cells.

MADE BY VARIOUS WASPS AND BY THE HONEY BEE.

By the Rev. Samuel Haughton, of Trinity College, Dublin.

The geometrical form affected by the cells of various kinds of wasps and bees has attracted the attention and called forth the speculations of naturalists and geometers from the earliest periods. By one class of writers the geometrical properties of these cells have been used as proofs, not so much of the skill and instinct of the insects, as of the wisdom and intelligence of the Creator; while by the opposite class of writers, these same geometrical properties of the cells are alleged as a sufficient cause for the production of the insects that make them, from the advantages which these forms of cells are supposed to possess over other forms—advantages said to be so important as to decide the battle of life in favor of the insects that adopt the geometrical plan of making their cells.

I have for a long time felt convinced that both parties in this controversy are in error, as men generally are when they attempt to speculate on the reasons for the existence of things; and that the properties of the cells are only the necessary consequence of their geometrical form, which form itself is the necessary consequence of mechanical conditions totally unconnected with design, and incapable of rendering an account of the origin of the insects that make the cells.

The geometrical cells of the wasps and bees that I have had an opportunity of examining, may be divided into three classes.

1st. Hexagonal cells formed by adjoining pyramidal figures, with slightly curved axes, not terminating in a point, but in a rounded extremity.

The British Tree wasp forms its pupa cells in this manner, and in consequence of the pyramidal form of the hexagonal cells, the comb opens out on the lower side, so as to present a larger surface than on the upper side.

2d. Hexagonal cells formed of adjoining prismatic figures, with rectilinear axis, terminated by a truntaced plane, at right angles to the axis of the prism.

These cells are found in wasps' nests from St. Lucia, in the West Indies, and at Graham's Town in South Africa, which were placed at my disposal for this investigation by Mr. Robert J. Montgomery.

3d. Hexagonal cells formed of adjoining prismatic figures, with rectilinear axes, terminated by three faces of a rhombic dodecahedron; which three faces also form each one-third of the termination of a similar set of adjoining hexagonal prismatic cells, placed end to end behind the first set of prisms.—This double comb is produced by the well-known form of the cells of the honey bee.

All these varieties of cells may be accounted for, simply by the mechanical pressure of the insects against each other, during the formation of the cell. In consequence of the instinct that compels them to work with reference to a plane, and of the cylindrical form of the insects' bodies, the cells must be hexagons; and in consequence of the instinct that induces the bees to form double combs, the mutual pressure of their heads against each other compels the bottom of the cell to assume the form of a rhombic dodecahedron. If we could imagine spherical insects endowed with the instinct of working from a point and not a plane, their cells would cease to effect the forms of the hexagondal dodecahedron, and would imitate the totally different form of the pentagonal dodecahedron—instances of which may be seen in the bubbles produced in the froth of an organic solution, and in the shapes of the elementary cells of vegetables, equally restricted in their growth in every direction—and also in the pentagonal faces assumed by leaden bullets made to fill completely the inside of a hollow shell, and then discharged against a bank of earth or a wall, from a mortar.

On this subject I cannot do better than quote the words of Buffon, who was the first person that put forward a rational theory of the shape of the cells of bees. The opinions of older writers, especially of mathematicians, differ widely from those of Buffon, on this subject. The passage from which I quote may be found in his *Histoire Naturelle*, tom 4, page 99, &c. I here translate some of the most important passages bearing on this point.

"The famous Pappus, of Alexandria, in the Introduction to the Fifth Book of his Mathematical Collections, says:—'God has imparted to men, indeed, the best and most perfect knowledge of wisdom and discipline, and has assigned to some animals devoid of reason, a certain portion. To men therefore as making use of reason, He has permitted that they should do all things by reason and demonstration; but to other animals without reason, He has given the possession of what is useful and condusive to life, by a certain natural providence.'

"Any one may understand this to be so, as well in many other kinds of animals, and more especially in bees. For order, and a certain deference to those who rule in their republic, ambition moreover, and cleanliness, heap together an abundance of honey. But their foresight and economy concerning its conservation are much more admirable, for holding it for certain, as is just, that they carry back some portion of ambrosia from the gods to choice men, they pour it not rashly upon the ground, or into wood or into any other unformed and misshapen matter, but collecting from the sweetest flowers that grow on the earth, they form from them most excellent vases as a receptacle for honey (which the Greeks call *κηρία* and the Latins *favi*: all indeed equal, similar, and cohering among themselves, of the hexagon species. Now it is thus evident that they construct these by a certain geometrical foresight, for they consider it fit that all the figures should cohere together and have common sides, lest anything falling into the intervening spaces, should spoil and corrupt their work. Hence three rectilinear and ordinate figures can effect what is purposed —I mean ordinate figures which are equilateral and equiangular, for ordinate and dissimilar figures did not please the bees themselves."

Now equilateral triangles, and squares, and hexagons, (neglecting other dissimilar figures filling spaces,) may be placed next each other, so as to have common sides—other ordinate figures cannot; for the space about the same point is filled, either by six equilateral triangles, or by four squares, or by three hexagons; but three pentagons are less than sufficient, and four are more than sufficient, to fill the space around the point; neither can three heptagons be established so as to fill the space around a point.

The same reasoning will apply much more to figures having a greater number of sides. There being, then, three figures which of themselves can fill up the space around a point, viz.: the triangle, the square, and the hexagon, the bees have wisely selected for their structure that which contains most angles, suspecting indeed that it could hold more honey than either of the others.

The bees, forsooth, know only what is useful to themselves, viz.: that the hexagon is greater than the square or triangle, and can hold more honey, an equal quantity of material being employed in the construction of each. But we, who profess to have more wisdom than the bees, will investigate something even more remarkable, viz: of three plane figures which are equilateral and equiangular, and have equal perimeters, that is always the greatest of all provided it be included in a perimeter equal to theirs.

In 1712, Maraldi published in the MEMOIRES DE L'ACADEMIE DES SCIENCES, Paris 1712, page 299, a remarkable paper, in which is investigated for the first time, the terminal planes of the bee's cell, which are now well known to be formed of the faces of the rhombic dodecahedron. He appears to have believed the object of having lozenges of the same form, as terminating planes, was to enable bees to carry in their mind the idea of one geometrical form only, in addition to their original idea of the hexagon. The angles of the lozenge are found by observation to be 110° and 70°; and 109° 28′ and 70° 32′ by calculation. He gives also the following mean measurements of the cells:—in a foot long of comb there are 60 to 66 cells, about two lines for each cell, and the depth of the cell is five lines.

Reaumur appears to have been the first who introduces the fantastic idea of economy of wax as the motive cause of the peculiar shape of the terminating planes, and, not being a geometer, he obtained the assistance of König to calculate the angle of the lozenge which should give the least surface with a given volume. König determined this angle at 109° 26′, agreeing with Maraldi within two minutes.

Maclaurin published in the Philosophical Transactions, 1743, page 565, an elaborate geometrical paper on the subject, in which he proves that the tangent of the angle in question is the square root of 2, and that it is therefore equal to 109° 28′ 16″; and he computes the saving of wax as almost one-fourth part of the pains and expense of wax they bestow, above what was necessary for completing the parallelogram side of the cells.

L'Hullier, in 1781, published in the BERLIN MEMOIRS page 277, an elaborate discussion of the entire problem, in which he arrived at the following results, already found by Maclaurin's geometrical method.

a, That the economy of wax is less than one-fifth of what would make a flat base.

b. That the economy of wax referred to the total expenditure is $\frac{1}{51}$st, so that the bees can make 51 cells instead of 50, by the adoption of the rhombic dodecahedron.

He does not share in the enthusiasm of the naturalist, but maintains and proves that the mathematician could make cells of the same form as those of the bees, which instead of using only a *minimum* of wax, would use a minimum-minimorum, so that five cells could be made of less wax than that which now makes only four, instead of fifty-one out of fifty.

Notwithstanding this conclusive decision in favor of the mathematicians, the advocates of final cause, and those who maintain that economy of wax can create a new species, have both persisted in using the bee's cell in illustration of their respective theories, with a pertinacity that proves the persistent vitality of exploded theory.

In fact the whole question of the economy of wax, like other such questions, requires a thorough sifting. To my mind it is evident that economy of wax has nothing to do with the making of the bee's cells; but that this and other properties necessarily reside in the bee's cell, because they are inherent properties of the rhombic dodecahedron. The true cause of that shape is, the crowding together of the bees at work, jostling and elbowing each other, as was first shown by Buffon. From this crowding together they cannot help making cells with dihedial angles of 120° of the rhombic dodecahedron; and the economy of wax has nothing to do with the origen of the cells, but is a geometrical property of the figure named —*Annals of Natural History, Third Series, Vol. XI.*

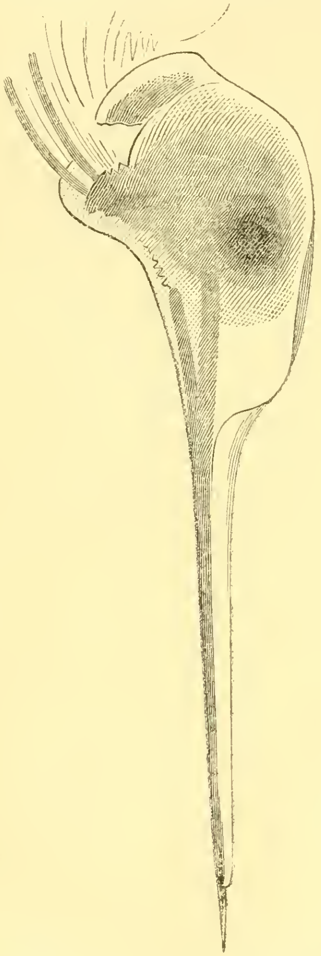
[For the American Bee Journal.]

The Sting of the Honey Bee.

MR. EDITOR:—In the summer of 1868, at several different times, when stung by a bee, I noticed, that in extracting the sting a portion of it would remain in the wound; that the part remaining fixed in the flesh was much finer in size and sometimes fully as long as the portion removed, and it appeared also to be a tube pulled out of the main sting, much in the manner of the working of a telescope, and which I thought to be the form of its construction, particularly as I had read in several places that such was its working. This led me to give the bee sting a thorough examination recently, with a powerful microscope then in my possession. The result has proved to me several interesting facts, which I have never seen published any where, and thinking they might be interesting to the readers of your valuable journal, I have taken the liberty of detailing them and forwarding them to you.

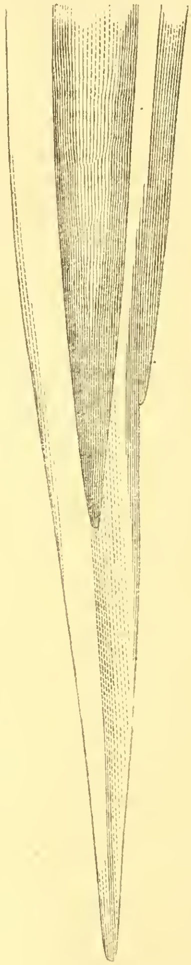
The bee sting, in the first place, is not a perfect tube, nor does it work with a telescope motion, strictly speaking. It is a complex instrument, being composed of three distinct parts, of which the sheath forms one. These three parts join near the edges, and form a tube which, viewed sectionally, has the shape of a triangle, the angles being rounded off.

The sheath, near its point, is narrow, but grows wider towards its base, where it gradually embraces the remaining parts, thereby keeping them in place in their working. Near each edge of the inner or hollow side of the sheath, runs a ridge which fits a corresponding groove in each of the other parts. Near its point, which is rounded rather bluntly, it is armed with two feeble sets of barbs, numbering as many as four in each set. The base of the sting or sheath is large, being broad and somewhat flattened, with an oblong hollow, which constitutes a receptacle for the poison just previous to injection in the wound.



Bee sting magnified. In this position of the sting the barbs are not seen.

The other two parts constitute the sting proper, and in a sectional view are semicircular, the upper edges being thicker than the lower ones, and squared to each other, one of the edges having a projection extending along the under or inner portion of it, thereby forming a rabbet along which the opposite part freely moves. The under or inner edge of each of these parts tapers down to extreme thinness, while near the termination of the edge, there runs a minute groove which corresponds with the ridge mentioned in the description of the sheath, and along which the parts move freely. Each of these parts proper tapers down to an exceedingly fine point. Near the point begin the barbs, which in some stings number as many as ten, extending along the sting nearly one-half its length, and are well defined.

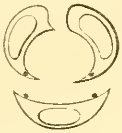


Point of Bee sting highly magnified.

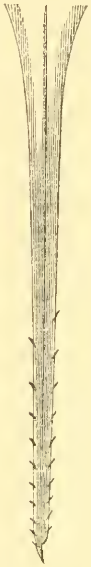
The parts are of a horny consistency, of a deep red color, and transparent, they are also hollow along the greater portion of their length, intended perhaps to combine lightness and strength.

The two chief parts at the base of the sting gradually assume a nearly round and tubular form, each terminating beyond the base of the sting within the body of the bee and has an arm attached to it at right angles which forms a part of the muscular mechanism by which their movement is effected.

Also, to each of the chief parts, and located in the cavity formed at the base of the sheath, is attached a plano-convex valve, the convexity of which is adapted to the inner side of this receptacle, and they occupy about one half of the space therein. When the sting is in action, each of the chief parts is thrust out and withdrawn, alternately; so that when working its way into a wound, the valves by their action force out the poison which fills the cavity, and which is received from a sac situated apart from the base of the sting. The poison readily passes along the tube (which is a continuation of the cavity) and finds its way into the wound with great facility, owing to the peculiar formation of the sting.

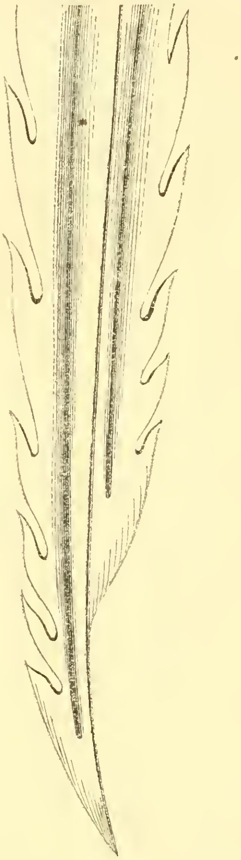


Sectional view of the parts of a Bee sting.



Bee sting magnified, showing the barbs.

It may often happen that one or both of the chief parts of the sting are left in the wound, when the sheath is withdrawn, but are rarely perceived on account of their minuteness, the person stung congratulating himself at the same time that the sting has been extracted. I have had occasion to prove this fact repeatedly, in my own person and others. Very recently a bee stung me immediately under the left eyebrow. It was perhaps fifteen seconds before the sting was extracted, when I at once put it under the microscope and found that both of the chief parts were wanting, having been torn away near the base. They unquestionably were left in the flesh, which caused me additional pain and swelling. This peculiarity of the sting renders it a formidable weapon, and may perhaps account in some measure for those deaths from the sting of a bee, lately recorded as having occurred in this country. I certainly dread them more now than before my investigation, though ordinarily we find no serious results ensue, owing no doubt to the fact that the substance of the sting, on account of its nature, is readily dissolved by the fluids of the body—consequently giving irritation as a foreign body for only a short time comparatively. The sting, when boiled in water, becomes tender and easily crushed.



Point of Bee sting highly magnified, showing the barbs.

When stung, a person should instantly extract the sting, should it be left by the bee in the flesh, as it continues its working motion for several seconds after being torn from the body of the bee, and thereby gradually buries itself so deep as generally to make it impossible to withdraw all of it.

J. R. Bledsoe.

Natchez, Miss.

[For the American Bee Journal.]

Novice,

AND THE MONTH OF JUNE, 1870.

DEAR BEE JOURNAL:—If we mistake not, it was George Washington, who, in laying down rules for his future conduct, deduced from past experience, said—"Never repeat or tell, *in the presence of strangers*, any fact, however true it may be, that seems very improbable."

Now, what we say here, Mr. Editor, is not to *strangers*, is it? We are all friends here in the dear *old* (as some one calls it) BEE JOURNAL, are we not, and nearly all acquaintances?

We sometimes wonder if any reader has ever followed Novice, as he often follows other correspondents, viz.: when we see something in one of their articles that makes us wish we knew better *just what kind of persons they were*. Take, for instance, the old back numbers of the Journal and read their articles in regular order, as they wrote them. How many of them we have got acquainted with in that way! Should we make inquiry in the neighborhood where they live, we feel as if we should not know them any better. The man stands not before you, like the figures in a stereoscope. Thus, for example, we call to mind a few of those whom we have followed in in that manner—Alley, Bickford, Conkling, Dadant, Gallup, Grimm, Price, Thomas, Townley, Truesdell, and a host of others, who, we only wish would write often enough that we might recall them familiarly. How we should like to take them by the hand—all of them. Even if we do not always think just alike, we like them all the better for that. They have given us a helping hand all round; and we feel sure that they will rejoice at our success as fervently as we should at theirs.

Well, how many of our friends have thought that Novice was enthusiastic, and built air castles? Some of those here at home, often tell us so, *on bees especially*, like this for instance. We proposed ordering jars and labels for 2,000 lbs. of honey. Said they, "better put it at 1000, Novice, and not be disappointed!"

"But we had 1000 lbs. from twenty hives in 1868."

"That was an extreme, and an unusually good season."

"But we are going to make them all good. We had 203 pounds from one hive; our hives are all strong now; and 46 times 203 are ——!"

"There! there! Novice all over! How about their all dying in the spring of 1869?"

"But we 'licked' on wintering too, in the spring of 1870."

"We had not learned that," &c., &c.

We got ready for 2,000 pounds; but by the middle of June, the jars were all full, and we sent in haste for as many more; and as the bees would not stop bringing in, we borrowed all the neighbors' tin wash boilers, which the bees filled in a jiffy. We borrowed more, but the honey came in torrents. We again ordered as many more jars. Monday came, and the women could not wash, because *we* had theirs boiler, and the bottles did not come, though the honey still did. "Would the bees ever stop?" asked our better half, in alarm; "would so much honey ever sell?" Even Novice himself opened his mouth, in dismay, but it soon came level again, in a few minutes talking wildly about scouring out the cistern and filling that too, if the Italians were willing.

We have now (July 6th,) put in jars over five thousand (5,000) pounds of honey, *by actual weight*, and basswood is just at its height in bloom! One hive has given us 258 lbs. and has just lost its queen, or tried to replace her; so we fear it will not be our best, and it is the only one we weighed. It gave us 44 lbs. in three days, on one occasion.

Natural swarming, for the first time, got rather the better of us. Removing all queen cells, and all honey, and giving empty frames in the centre of the hive, would not do; and one stock swarmed while we had the hive open, removing the honey. We thought we would for once try natural swarming a little, since such swarms are cracked up so as working better, &c. But if we don't take the matter in hand hereafter and have it when we wish and how we wish, it will be because we can't. Here is our complaint.

Our first natural ("born fool," we should like to say) swarm, we put in Dr. Conklin's diamond hive. It staid half a day (but didn't work "airy spec,") and then went out again. As we had no frames of brood that size, we thought we would try them again. As soon as the queen was uncaged, they were off once more. Next, we cut out some brood, in all stages, and filled a frame; half a day more, and "off again!"

Of course we always keep the queen's wings clipped; but the last time they left their queen and joined a small swarm of black bees at a neighbor's, and when we hived them for him, at his request, and told him how it was, he said, no, "his bees were yellow too;"—so went half a bushel of our best Italians. How much good would Quinby's queen yard do, in such a case?

Another swarm acted in the same way, and we paid the sum of five dollars for a small third swarm of black bees, that we might carry our Italians home. Still another came out four times; and we could only keep them by caging the queen nearly a week.—After we became disgusted with this state of things, we did it our way. That is, we shook off all the bees and the queen from an American hive (that could not hold them all) into an empty Langstroth; on the old stand, gave them one frame of brood, as we had treated all the *natural* swarms, and they built more comb in two days than the natural did in a week. All were shaded. The old American hive had a new location of course, and young bees enough to care for the brood. In any kind of swarming, we always furnish *queen cells* or *brood* from choice stock, selected with a view to give gentle bees and large honey producers. Queen cells are laid on the top of the frames, where they can be readily inspected, and all others are carefully cut out when the honey is removed by the melextractor, every two or three days. Sometimes they are obstinate, but we insist on compliance with our wishes.

All drone brood is sliced off as soon as sealed, so that we have scarcely any drones in our apiary.

We enclose a report given in our county paper.

As ever yours,
NOVICE.

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[From the Medina (Ohio) Gazette.]

Scientific Bee Culture.

EDITOR GAZETTE:—In answer to a thousand and one (almost) inquiries we submit a few statements concerning our Italian Bees for this season.

About three years ago many readers of the *Gazette* may remember we gave the result of an experiment to ascertain the quantity of honey that a strong colony of bees could gather when they had *no comb to build.*

The result then given was 30 lbs. in two days; an amount that seemed almost incredible, when the size and power of the little insect was taken into consideration.

Two years ago hearing that a machine had been devised in Germany, for removing the honey from the comb by centrifugal force, we caught the idea and made a machine at an expense of about ten dollars, that would take every drop of honey from the hive of a large colony in less than ten minutes, without the slightest injury to the comb, *even when full of brood in all stages,* and further than that, that the bee would go to work with unusual energy to refill them

If a swarm can gather 15 lbs. in a day it is evident that with the old-fashioned method where but two, or at most, three times that quanity is furnished as surplus in a season, that a large part of their time is spent idly, which we think is usually the case, but not so much so in our apiary as the following figures will show.

The best yield per stock per day, we have, previous to this year, by the melextractor for a series of days was 9 lbs. per day. June 25th, 26th and 27th our best stock gave us this year, 43 *pounds,* (carefully weighed by the steelyards.)

We commenced removing honey, June 1st, having then 46 stock of Italians and Hybrids, mostly but not all strong, and have now taken altogether 5,000 pounds.

Many have come to us for advice preparatory to going into the "bee business." To all such, we will say that we have no secrets that are not free and public property, yet, without speaking discouragingly, we know of no business where a little neglect at the proper time or a want of knowledge of the proper thing to be done, would work such a disaster as in the bee business.

Again, the successful bee-keeper, on the plan we follow, must make up his mind not to mind any amount of stings, (even a dozen an hour,) and to take them all gently and uncomplainingly.

To those who are really willing to go into the subject and study it thoroughly in all its details, (and you might as well undertake to build steam engines successfully without study as to keep bees in any number without this,) we would recommend first and foremost the AMERICAN BEE JOURNAL, published at Washington, D. C., $2 per year.

We are asked almost every day "how we raise queens and make swarms artificially."

Now we could tell you all in one breath, "how to clean and repair watches," much easier than the above, and in the majority of cases could teach it about as successfully.

However, we are willing to give our hand to those who are really in earnest, and there are oceans of white clover without bees enough to visit them, and the more bees that are kept the more clover there will be. Isn't that jolly! Now we know why there is so much clover of late within a circuit of three miles around Medina. "Root's Italian bees of course."

Yes, they will cross and have crossed with the common bees for four or five miles around. And it would be a pleasant thought for us to think that we had been instrumental in improving the honey crop of Medina county, even if it did not all go into our pocket.

Twenty dollars for one original Italian Queen five years ago was not so bad a venture after all. She has given us health as well as honey, and may her progeny never number less.

A. I. ROOT.

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[For the American Bee Journal.]

A visit to E. Gallup, and what I saw there.

There being a Sunday-school association, composed of several counties of Northern Iowa, to meet at Osage on the 21st and 22d of June, I being a delegate, found myself at Orchard about 8 o'clock on the morning of the 22d, within one and a half miles of Mr. Gallup's residence. I thought I could spend part of the day with him, with both pleasure and profit, as no doubt most bee-keepers could—unless it be the Professor, who sells quarter-blood Italian queens. So I left the train and took it afoot through the hot sand; and when I came to a house that stood in a grove surrounded with bee-hives, I concluded that was Gallup's, in which I was surely not mistaken. After finishing a fine breakfast which the good woman prepared for me, I went on the look out for Gallup himself, and at last succeeded in finding the real Simon Pure, shingling on the south side of a house where it was so hot that he talked of taking the nails and pumping water on them to keep them from burning his fingers.

After a few preliminaries (and very few too) he invited me to a seat on the ridge pole of the house, where I could catch a little of the cool breeze that we always have on our prairies. We did put in full time, talking of bees, bee-hives and introducing queens, until about 11 o'clock when we came down into the yard. He opened several of his hives, showed me his queens, some from Mr. Alley, some from Mrs. Tupper, and others, and at last his imported queen sent him this spring. I remarked to him that this latter was no lighter or handsomer than other queens he had shown me, or those queens I had in my own yard, which I knew were hybrid. His reply was that the climate of Italy gave them a much darker appearance than those raised in this country.

The next thing was to open one of Alley's new style Langstroth movable comb hives. He had in it a fine stock of three-banded bees, hard at work, having been put in only a few days before. I must here say that it is a splendid looking hive as it sets in the yard and I thought it would be more in place in the house, as it would make a splendid western bureau.

Then he opened one of Dr. Conklin's Diamond Frame hives, this also had a good stock of Italians, hard at work. They had also been in only a few days, but I could not see that they had built comb faster or straighter than those in the Langstroth frames, whether deep or shallow. I must say that I do not like the appearance of the hive as it sets in the yard. It looks as though it had been upset and wanted squaring up with the world. I do not think you could pile them three deep in the cellar very well.

I will not describe Gallup's hive which he uses most, as he has done so himself several times, and is often called on to do so through the Journal. He calls it the Langstroth hive. The frames run the same way, only they are shorter and deeper than those of the shallow form of the Langstroth hive. I think it is a good hive in his hands, or rather in a good bee-keeper's hands. But only think of a hive you have to pull in front over the movable bottom board to let in air and for the bees to enter, except only a half inch round hole through the front. This is used for the bees to enter, and through it they leave the hive, and when one comes in loaded and misses this entrance, he drops down and goes in at the bottom. I fear that this hive in the hands of most bee-keepers (class No. 3, I guess he calls them) who seldom examine their hives, will find too much air and a few worms in this style of hive. I told Gallup that when he visits me next fall, to attend our County Fair, I would convince him that I had the best hive—which is the Langstroth deep frame two story hive, with frames above, or boxes, as made by the "National Bee-Hive Company" at St Charles, Kane county, Illinois, M. M. Balbridge, Secretary. This hive is so simple, the upper story may be removed and the same cover fits the top of the hive, the size of frames is the same above as below, they may be nicely packed in a cellar, examined with ease, and you have matters entirely under your control. Besides making a beautiful appearance in the apiary, if you keep them well painted, as you should do, they will last a lifetime.

We were now called to drive out, but as soon as we were well seated, a stand of bees informed us that they were intending to swarm. So out we went, and Gallup was somewhat disappointed as he did not expect that hive to swarm. This is about all you can tell as to when bees will swarm, unless you open the hives every few days. I have had bees to swarm and go back to their hive again; I would then open the hive, destroy the queen cells and give them plenty of room, and the next day out they would come again, be hived all right, and go to work—leaving the old stock to raise another queen from eggs after their departure. And all this, when the queen that did leave was one that I raised late last season, young and prolific.

But I will return to our swarm that is in the air. The queen did not come out, and the bees returned to their home stand without clustering. Gallup called it a foul, I called it a fizzle.

The next exhibition was his Peabody honey-flinger, as he called it. It was the first I ever saw, and as he considers it the best in use, I promised to treat myself with one, as I think it a great improvement in bee-culture.

The next thing was one of Davis' queen nurseries. This he had not yet tried, but would in a few days set it a going.

We were soon seated in his carriage, with his family, on our way to Osage to attend to Sunday-school Association riding over one of the finest countries the sun ever shone upon—and this can be said of all Iowa, especially the valley of the Red Cedar. Here, nearly every quarter section of land is improved; while there is heavy timber on the river, and beautiful groves scattered over the prairies.

At about 5 o'clock the train from the North reminds me that I must turn my steps homeward, and if ever any one felt satisfied with his day's work, though it had been hot, dusty, and dry one, it was your correspondent.

My bees are doing well. Most of my Italians have given me two or three swarms, and are now at work in boxes. I have some thirty stocks; am a beginner; commenced with three stands in 1868, and have raised three generations of queens this year. I will only add, should you, or any of the correspondents of the Journal, be as near me as I was to Gallup's, call by all means and I will try to entertain you, if I do not keep a hotel.

Thus ends the account of my visit to Gallup's and what I saw there.

H. K. SWETT.

Waverley, Iowa, July 5, 1870.

[For the American Bee Journal.]

The Looking-glass Theory played out!

On page 252, Vol. 5, A. B Journal, Ignoramus tell us of decamping bees being stopped by the rays of a looking-glass being flashed among them.

Just after reading his article I saw another in one of my *scientific* agricultural journals, that tells us by the aid of a looking-glass we can see everything in a deep well, cistern, &c , and that the looking-glass will keep the birds out of the cherry trees, &c., &c. Well, sir, as seeing is believing, I procured a *piece* of a looking-glass, went to the well, and threw the reflection down *to* the *water*, but no further. I could not see a thing below the surface of the water. But to try the thing further, I went out to my apiary, took my station by a favorite cherry-tree full of *birds*, but almost minus the cherries. I darted the bright reflection of the looking-glass in their eyes, and what do you think the result was? They eat the fruit faster. Well, I thought, here are two failures, I wish I had an opportunity to try an absconding swarm of bees. Just then I heard the buzzing of a swarm starting. I looked at all the hives in the direction from whence the buzzing sound came, but saw no swarm issuing, though the sound increased. In a moment after I saw a swarm leaving the top of a large apple-tree. Now for my glass, thought I; no use of your trying to go away, for I will stop you with the looking-glass. So I ran before them with my piece of glass, and flashed and flashed; but they went higher and faster. When they had gone about three hundred yards they seemed to be offended at the flashing glass, rose above the tall forest trees, and soon left me in the distance, to consider how foolish I was to believe enough of the looking-glass theory even to try it. I was rather a skeptic before, but now with me the looking-glass theory is entirely *played out*. I guess if Mr. Ignoramus will question his neighbor closely, he will tell him about the time the bees turned back to the bush, scattered, circled, and seemed to be confused, they perhaps were, for their queen was probably as nigh tired out flying as he was running, and alighted on the bush. After the bees had gone on a hundred yards or more, they discovered her absence, and returned, to find her on the bush, and stopped there also to rest awhile. Had he sat down by the bush and rested also until next morning, it is more than likely they would have started again, and went on regardless of his glass. Or will Ignoramus say there is more virtue in a whole glass, than in a *piece* of one? My piece of glass was four by five inches square.

I once knew of a swarm to turn back some two hundred yards and settle on the top of a tall oak that stood in a deep hollow they had just crossed—*without* the aid of a glass. The man following them said he hallooed and made so much noise that they went to the *top* of the tall tree to get rid of his noise!

H. Nesbit.

Cynthiana, Ky., June 25, 1870.

[For the American Bee Journal.]

On Wintering Bees.

Mr. Editor:—Your correspondent, Novice No. 2, inquires as to the best mode of wintering bees; giving his own experiments, at the same time. Having tried almost all the methods recommended by the writers of the day, I have adopted one of my own contriving; and have found the following mode, in my opinion, the best, and to be, so far, entirely satisfactory in its result.

My cellar, under my kitchen, was prepared by passing a tin pipe 1½ inches in diameter (see *diagram*) from near the bottom of the cellar up through the floor into my cooking stove pipe; so that when there was a fire in the stove, there was a constant draft of air from the bottom of the cellar discharging into the stove pipe and off through the chimney. The cellar was not a dry one, and was also somewhat damp from recent build, not having yet become dry in the walls. Into this cellar I put my bees on the 15th of November, leaving the entrances of the hives open, and also slightly opening the tops of each hive, but not giving more, on an average, than an inch square of space for upward ventilation. In the Langstroth hive I simply slipped a sixpenny nail under the two corners of the honey board in front. The hives were set three deep in a row around the sides of the cellar. Here they remained until the 17th of February. The sun was shining brightly; the air was still; and the thermometer at 50° at ten A. M. I set them all out upon their old stands, and let them have a day of jollification; which they improved with a hearty good will.—After they had quieted down that evening they were all returned to the cellar, where they remained till the bees in the neighborhood began to gather pollen plentifully, (which was on March 30th,) when they were again set out, to remain for the season, on the same stands they had occupied severally in February.

The result was, 1st, there was not a particle of mouldy comb; 2d, not more than half a teacupful of bees dead in any one hive during the entire winter; 3d, the hives appeared to be nearly as heavy as in the fall, when they were put in; 4th, each colony was exceedingly strong in numbers, and young brood was abundant.

The philosophy of my success I think to be this: 1st, The air in my cellar was changed almost entirely, if not quite, every day, by means of the draft in the ventilating tube; 2d, the coldest air, being on the floor of the cellar, was that which was drawn out; 3d, the carbonic acid gas exhaled from the lungs and body of the bees, is heavier than common air, and of course sinks to the bottom of the cellar, where it would remain in a strata of poisoned air all the winter, no matter how many tubes, as ventilators, were fixed in the wall at the ceiling or top of the cellar. The warmer air, and the purest indeed, would pass out at these holes at top, and the cold and poisoned air would remain on the floor. The supply of air was from the store-room above, slightly warmed, and of course always dry; and was drawn into the cellar to supply the vacuum caused by the draft in the tin pipe.

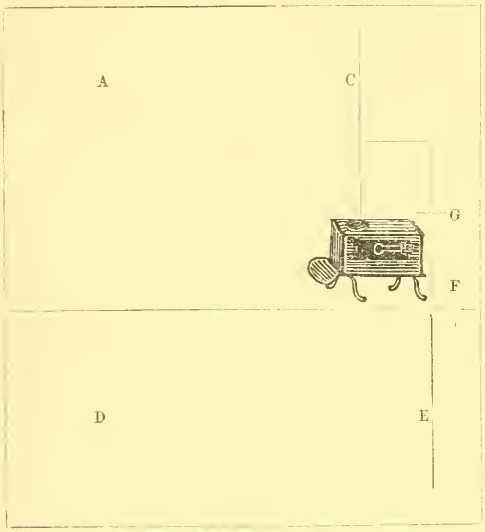
Foul air and the retention of the *fæces* are probably the great causes of dysentery during the winter. Avoid these, and bees will pass the winter in as healthy a state as in summer. If the cellar is of a temperature as low as 32°, the bees will consume large quantities of food, and, having no chance to fly out, will retain their fæces too long; and dysentery will compel them to daub the frames and hive with their excretions. Being in a freezing temperature, thousands will perish, not being able to find their way back to the cluster. On the other hand, the temperature should not be too high. If it is, the bees will become uneasy, and more honey will be consumed; and being confined too long, under such circumstances, might become diseased. About 40° to 45° would be my standard. If the air is supplied as above, it will not vary much from this point.

In special depositories, built above ground, bees do not generally suffer so much from poisoned air, as there are usually ventilators near the ground, through which the carbonic acid gas flows out. But here the great danger is from being too irregular in temperature, sometimes being so low as 22°, and at others so high as 60°, as reported by one correspondent. This will be modified much by the number of colonies wintered in one room. Through the months of December, January, and February, let the temperature be kept as near 45° as possible. After this let the temperature run up to 50°, and keep it this high to promote early breeding. When set out stop all the crevices but the entrance and the bees will be in the best possible condition for early swarming and an abundant harvest of surplus honey.

E. L. BRIGGS.

Mount Pleasant, Henry Co., Iowa.

Accompaning the above was an illustrative diagram, showing the arrangement for ventilation, somewhat as below.



A The kitchen.
D The cellar.
B The stove.
C The stove-pipe.
E The ventilating tube.
F Air passage in kitchen floor.
G Damper.

It will be seen by this diagram that the tin tube is entirely out of the way; and that the draft can be shut off at any time by a damper in the tube. The air being let in at F, is gradually diffused, and sinks to the floor of the cellar and is drawn through the tube, until the whole is changed.

A cellar ventilated in this way will remain as pure and free from any bad smell as any room in the house.

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In districts where buckwheat is extensively cultivated, bees will sometimes swarm when it comes into blossom; and the hives therefore need watching or examining at that period.

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Buckwheat swarms have been known to issue some years as late as the middle of September.

[For the American Bee Journal.]

How bees secure pollen to their thighs!

A correspondent in a recent number of the BEE JOURNAL gives the manner in which bees remove pollen from their thighs and deposit it in their cells. I never knew until this season, how they collected it and secured it to their thighs, and as others may not have observed the process, I will record it.

In feeding some flour this spring, my attention was attracted by the large number of bees hovering on wings, just over it and a few inches above it, almost stationary, now and then alighting for an instant; while some would merely touch the flour, and rise again, without stopping. Upon close examination I saw that their feet were going in as rapid motion as their wings, and that they were engaged in securing the flour to their thighs. They take up the flour or pollen with their fore feet, rise on wing, and with a rapid motion of all their legs, convey it and secure it to the receptacle on their hind legs, while flying. In gathering pollen from flowers, they collect all they can with their mouth and fore feet, and while passing to another flower and hovering over it for an instant, convey it to their baskets and secure it there. The peculiar noise or humming made while securing the pollen, we do not hear when gathering honey alone.

Mathematicians tell us of the great wisdom and ingenuity manifested in the construction of the cells of the honey combs, so as to use the greatest economy in space with the greatest possible strength, and now we see in this wonderful insect the wise provision of the great Creator for the economy of time. No time is lost by having to stop within the flower to secure the golden-colored treasure, but it is secured on wing while passing in search of more.

T. SMITH.

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[For the American Bee Journal.]

The Thomas Hive.

MR. EDITOR :—We should like to have *our say* about which we think the best hive—its advantages and disadvantages. Taking everything into consideration, we regard the Thomas hive as the best of any we have seen.

The advantages are :—

1st. It is of the best shape to secure the greatest amount of heat for wintering bees, and for rearing brood in the spring.

2d. The combs can be removed, examined, and placed back, inside of five minutes; and with the least jarring or disturbing of any hive we ever opened; there being no empty space between the ends of the frames for the bees to fill with wax.

3d. It is so constructed that in moving the hive or combs, the frames are always in their proper place.

4th. It may be opened and closed without crushing a bee.

5th. It can be made with side doors a foot or more square, and back door ten inches square.

6th. In one minute you can have a circulation of air passing through every part of the hive; or in the same time you can allow as little as you wish.

7th. It has a swinging bottom board, which enables the apiarian to clean the hive of dead bees and of filth, without removing hive or combs.

8th. There is a passage through the bottom board covered with wire cloth, through which the bees receive air when shut in by the apiarian or snow.

9th. The frames can be handled with ease by the ends, which project 1¼ inches from the side of the comb, instead of taking hold of the frame among the bees.

10th. It contains the strongest frame we have seen.

11th. It cannot be surpassed for storing honey.

12th. It has comb frame stops, which hold the frames in their places and prevent the bees filling between with wax.

13th. It has two revolving bands, which gives the apiarian access to the ends of the frames, and when turned down form an alighting board for the bees and a short passage to the surplus honey boxes.

14th. It has a cover which carries the water to the sides of the hive.

15th. It does not gather dampness on the bottom board, as it touches the ground only on the ends of the side board.

16th. The bottom board slants to the front, the hive being vertical, enabling the carrying out of dead bees, aiding them to repel robbers, carry off moisture, and prevent rain from entering the hive.

17th. There are no openings in winter through which mice may get in.

18th. One, two or four boxes may be used.

19th. It presents a beautiful appearance in an apiary. Placed as ours are, in rows north and south, and east and west, they look like a village.

The disadvantages are:—

1st. It costs more than many others. First cost here $3 50.

2d. We have to set the boxes on the frames, instead of using Langstroth's honey board and air chamber.

3d. The improvements are worse than useless to one who will not properly use them.

Palmer Bros.

New Boston, Ill.

[For the American Bee Journal.]

Letter from Tennessee.

A few years after Tennessee was admitted as a State in the Union, emigration set in in earnest to the western country—a land akin to the one the Israelites were seeking—"flowing with milk and honey." The cane afforded pasturage for cattle during the whole year, and the forests abounding in bee-trees. Most of the settlers in this (Rutherford) county, were from North Carolina and Virginia. At particular seasons of the year baits were set up and the bee-trees marked—an expert finding several bee-trees in a day. From twenty-five to fifty pounds of nice honey, was generally taken from each, and the bees frequently left to take care of themselves. The more thrifty and economical hunters would secure the swarms, and carry them home in *gums* previously prepared.

Hollow oak, elm, and cedar trees were felled, sawed in pieces from two to two and a half feet long, and the inside smoothed with what the old people call a round shave. One inch holes were bored about midway the gum, and a round stick passed through. The top was covered with bark of the red or black oak, the bottom left open, and three or four inverted v's (ʌ ʌ ʌ) cut in its edge, and it was then placed on a flat stone in the back yard. Robbing or taking honey every year in the spring, was attended to by removing the top and cutting out the comb down to the ╳ sticks. The broken combs in the gum were then sprinkled with wheat, bran, and the top replaced.

Bee-moths were then (from 1810 to 1825) unknown, and for years after. I have been unable to ascertain the exact year the moth miller made its appearance in this county. But when it came the bees were killed by thousands, offering only feeble resistance to the inroads of the destroyer.

As early as the year 1830, a man by the name of Jenkins, living in this county, discovered that the queen bee accompanying a swarm last spring, generally led the first swarm the spring following; but he never observed her the third season. He ascertained this by notching the queen's wing so much that it impeded her flight having caught her while passing into the hive during swarming time.

About the year 1840, the more wealthy bee-keepers were gulled into purchasing bureau-wheatfan-like looking articles called bee-palaces and enough was paid for them to keep a small family in honey for ten years. It is not necessary to tell you they were short lived—the concerns lasting longer than the bees that were in them. People were so "burnt" with them, and such a quantity of them were scattered through this country that that generation had to nearly pass away, before improved hives of any description or pattern whatever could be introduced.

Within a few years past several patent hives have made their appearance in our midst; and some interest is being manifest in an improvement on the old gum and procuring better bees.

The movable frame (Langstroth) hives have been much used here for three seasons past, and with intelligent bee-keepers give satisfaction; although we have never experienced with that hive those marvellous returns in honey claimed by some persons interested in other hives.

We winter our bees in the open air. No foul brood has made its appearance in our county. Wishing your journal success and more patronage, I am yours, &c.

Wm. P. Henderson.

Murfreesboro', Tenn., June 27, 1870.

Early in October all the hives in an apiary should be carefully examined, to see if they are in a suitable condition for wintering.

[For the American Bee Journal.]

Respect for the Sabbath.

MR. EDITOR:—On page twenty-four of the July number Mr. J. L. Peabody says he is sorry for Novice's "repeated misfortunes," and thinks that if he takes Argo's hint as to the day he writes on, &c.

Now we do recollect Mr. Argo's writing as though *some one* had written on *Sunday*, but that he would not. But as we have *never written an article* on the Sabbath, we could not see that it applied to us at all. If we have ever *dated* an article so that it fell on Sunday, we beg pardon for *the blunder*, as that is all it was.

In regard to our repeated misfortunes, we know of none other, unless it is a "blissful ignorance" of the fact that we were a "misfortunit indiwiddle" at all.

It is true, our bees did die (but we have got lots more), and our earthly treasures did burn up (and they were fully insured, except the Quinby hive); but if that was all the direct consequence of *reading* the Bee Journal on Sunday, we are really afraid we shall burn up more. Alas, wretched NOVICE.

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[For the American Bee Journal.]

From the "Old North State."

I have been trying, Mr. Editor, to get you a list of subscribers for your invaluable Journal, but, as yet, without success. This is attributable to two causes, viz.: the great scarcity of money, and the inveterate "old fogyism" of our bee-keepers.

To *rob a hive*, thus—knock off the top, and take out half the contents, young bees and all, about "corn-tasseling time," is the general practice; and for fall management, fire and brimstone to all except a few, for seed!

I have tried to induce a desire to improve in bee-culture, by every means in my power. I have started some few to using box-hives with upper chamber for surplus honey, and three are using movable frames. I have been ridiculed—had "bee on the brain, &c.," but have kept steadily on, and hope yet to convince many that there is profit as well as pleasure in adopting an improved method.

I regret exceedingly that I have not a "Hruschka." I feel the necessity for it, and am nearly disgusted with glass boxes, by my experience this season; as in nearly every instance my boxes have brood in them, making them unfit for sale, and causing them to be longer on the hive. Can this be prevented?

Several of my stocks have, at a time when they were gathering plenty of honey, dragged out and *sucked dry* nearly all of the drone brood. Now I want to know why? Are there certain conditions when a stock requires *animal food*, and does the queen, like the ostrich, lay an excess of eggs to supply this expected demand? Again, I have this season observed several instances of comb-building *across* the frames, and, in the boxes a partial disregard to the guide combs; and apparently in every case, the comb is built in a *north and south* line. Now, is this simply a coincidence? If it is universal, how simple it will be to have all the frames *on that line*, and thus accommodate their instinct to our wishes in dictating combs straight.

I value my Journal and do not wish to be without it at all; but I lend and lend again, and keep every copy going—hoping thereby to do good, and *you* know *one* reason why. If you will admit to your columns a correspondent from this *Bee*-nighted region, I will endeavor to write only such matter as I believe ought to interest the bee fraternity.

Congratulating you upon the improved appearance and interesting contents of the July No., and hoping that you may *never weary in well-doing* I am, yours, &c., MAT. HEWS.

Oxford, N. C., July 6, 1870.

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[For the American Bee Journal.]

Permanence of Qualities and Purity of Italian Bees.

It is well known that a seemingly pure Italian queen, which breeds only three-yellow-ringed workers will yet breed young queens, some of which are very dark, while others are quite yellow. And some of these young queens will breed beautiful workers, and others very dark, or even black ones altogether. This latter is always set down to the fact of her having mated with a black drone; while it is, or may often be, owing to her impurity inherited from her mother.

In all first crosses between varieties, the hybrid offspring generally appears to be half and half of both parents. But the offspring of hybrids scarcely ever shows such equal shares of parental traits. One inherits almost exclusively on one side and another upon the other. A half blooded Morgan mare, bred even to a pure Morgan sire, will rarely ever show the three-fourth peculiarities of the Morgan stock, but her colt may go back to either side—showing the curb or the Morgan, without any rule upon which reliance can be placed.

Five generations, at least, are necessary to fix any variety of hybrid, so that the mother shall certainly reproduce herself, in her offspring.

The *Chester White* and the *Magee* hogs are not new species, but varieties which have become fixed by continual selection of the best, through at least five generations. Some claim that twice this number is necessary. But this much is sure by the concurrence of all breeders of fine stock, that none are admitted to the rank of thoroughbred, unless the blood has flowed pure for at least this number of generations, without the least cross.

The prices which are now demanded for Italian queens, greatly vary with the different breeders; and if we mistake not those that sell cheap queens, are the ones that get the custom of bee raisers generally. Some sell as low as $3.50, and boast of four hundred orders unfulfilled at a time.

Well, let us see where our Italian stock is bound soon to end, with the present manner of breeding. Suppose forty Morgan mares, and as many stallions, all pure, were allowed to mingle promiscuously, would any one think of taking a colt at haphazard from their offspring, from which to breed the highest qualities? No. For although all would be Morgan horses, many would be very poor Morgans indeed, considering the Morgan as the standard—though any one of them would be better than the Mustang. Out of the forty he would not select more than one or two, that would in all points meet his ideas of excellence as a breeder.

Apply this to the Italian honey bee. Our importations have been haphazard from Italy. All have been better than the common black bee. But considering the Italian as a standard, they have ranged from very good to very poor. Promiscuous breeding is certain to run back into a degenerate variety; while constant *selection* just as certainly improves even the best breed.

It has been demonstrated that some of the breeders in the United States have raised more beautiful yellow queens and workers, than those originally brought from Italy. This has resulted from selections continually made from the best of the undoubtedly pure. Dzierzon, in Germany, it is said, has produced a variety with four yellow bands—being a gain of one band, by constant improvement by selection of the highest colored. In my own apiary I have raised one queen that bred many workers which showed four yellow bands when filled with honey.*

By breeding from this queen constantly, and closely watching the progeny of her daughters, one might now and then be selected which would give this marking constantly; and so on through successive generations, until such variety would become fixed. But color is not the only quality needed. Size, fertility, disposition, and the honey gathering instinct particularly, are all to be regarded as requisites in improvement.

Now, shall the queen raising brotherhood send out $2.50 queens over the land, until the public shall conclude that all the advantage which one variety has over the other, is that the one has some yellow rings, which the other has not. For one, I answer No! Let the sharper do as he pleases; but let men of integrity sell only at fair prices, and send out such alone as are really superior.

From my own experience I can pronounce no queen fit to breed from, or even pure until after I have seen the color of her queen-bred daughters. If all the daughters show a uniform color, they are pure up to the mother's standard, and the variety is fixed, or she may be pronounced *thoroughbred.* If the colors vary, however, from dark to bright yellow, she is tinged somewhere in her recent ancestry, with black blood, though she may have been bred even in Italy. The man who is raising queens for sale should be held responsible by those who buy of his stock, to breed only from his very best of queens. Otherwise let him be held as ranking only with the quack and the mere pretender generally. He may not have very superior stock at first; but his stock will always grow better and better, with each year he continues in the business. Four tested queens are as many as any breeder can raise from one nucleus in a season. If one out of four should prove unfit for sale, or a hybrid, then not less than from $8 to $10 each could pay him for such tested queens.

Then let the price be kept at paying figures; but send out no queens for breeding purposes, but such as are fully up to the standard of excellence, and those who delight in handling this wonderful insect, may not only have the most beautiful, but the gentlest, the largest, the most fertile, and most industrious honey bees known to the world.

E. L. Briggs.

Mount Pleasant, Iowa, July 7, 1870.

[For the American Bee Journal.]

The Queen Yard Tested.

Quinby's device called a queen yard, will keep a queen inside of it, just so long as she does not try to *crawl* out. I caught two queens on the *outside of the yard* when the bees were swarming. They were of the black variety, old queens heavy with eggs, and having their wings clipped, I put one back and had the mortification to see her crawl out from the underside of the tin, a few minutes after. I have good reason to believe I lost two or three others in that way; after which I watched them while swarming, caught the queen, and returned her when the bees return. Perhaps most queens will return without trying to crawl out; but it will not do very well for a rule, according to my experience.

E. S. Fowler.

Bartlett, Ohio.

[For the American Bee Journal.]

Economizing in Management.

Modern writers I believe agree in the fact that bees consume from sixteen to twenty pounds of honey in making one pound of comb. But how much honey that pound of comb will hold after being made, I do not know; though we will suppose it will hold from sixteen to twenty pounds. Now suppose you take from a hive a box containing twenty pounds of honey in the comb, you have robbed them of material equivalent to forty pounds—namely twenty pounds of honey, and comb for the production of which twenty pounds more of honey were used, and for replacing which, by the bees, the same quantity of honey would again be required. This nice box of honey, it is very true, comes on the table in very aristocratic style; but if the reader will show me a man with a stomach that can digest beeswax, I will in turn show him one that can digest a saw-mill. Call on your druggist if you please, and ask him for the strongest acid in his establishment—say *nitric acid* (aqua fortis), and if he has a small vial with a glass stopple, he will give it to you in that, to keep it from getting on your clothing or hands. But if he has none such, he will draw upon a piece of wax, to make a stopple that is acid proof. Good material to test the digestive organ of man. But why not abandon the box, and receive from the main hive double the amount of honey by saving the comb from destruction and returning it to the hives, besides preventing an open space above the bees. You thereby also obviate trouble and avoid the disinclination of the bees to enter the boxes and work. In all my experience I am certain I never saw a colony that filled a top box, without first damaging the prospects of the queen, by filling the comb in the main hive so full of honey that no empty cells remained for her to deposit eggs in. In some cases I have known hives to remain with a box on top the entire summer and fall, without being filled, though the main hive was full and there was for months, plenty of honey to be gathered from the flowers, and during the early part of summer the bees clustered in crowds on the outside of the hive. Bee-keepers generally can testify that such cases are numerous.

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*As we understand it, Dzierzon's bees show the fourth yellow band only under similar circumstances—that is only when well-filled with honey.—Ed.

This is an age of progress, and the watchword of the day is *onward* and *upward*. Reader, you that are using the common box or gum, what kind of hive, think you, did the bees occupy five thousand years ago—say the first swarm that ever occupied one? I suppose it was some old log gum or box hive, with the combs fastened to the sides. You have advanced perhaps in everything else; tell me how far you have advanced in apicultural science. The first improvement in bee-hives that ever materially assisted me in bee-culture, is of very modern date. The time is past that any man that understands his business, will make a specialty of bee-keeping, without the movable frames. The sting of the bee has caused such terror and fear that man in all ages groped his way in chains and darkness till recently, so far as a correct knowledge of the culture of this insect is concerned.

In the one item of an attempted adaptation of the hive to the nature, wants and instincts of the bee, thousands of patented hives have failed and been an injury to the bee. The entire domicile must be in one box, without division boards or combined boxes, either side by side or on top of each other. The surplus honey must be taken from the main hive, and the empty combs returned in a manner to keep the empty cells below—thereby adhering to the golden rule in bee-culture: "*Always keep your colonies strong in numbers, so that when plenty of honey is produced by the flowers, you have plenty of bees to gather it.*"

As we have before stated, the mere emptying the combs of their honey, and replacing them where they were before, does the queen no good so far as depositing eggs is concerned. Instinct teaches her to deposit her eggs in the lower part of the hive, and prompts the bees to store their honey above. It is evident that if the combs containing honey and brood, are emptied and returned to their original place the brood will occupy the same position that it did before, and no increased facility is given to the queen to increase her colony. There is besides the questionable propriety of emptying combs with brood in what I call the *milky* state, (from one to four days after hatching.) Will it not be chilled in its rapid revolutions in the emptying machine? Then there is also the opening up of a larger space above the bees. This open space, created by emptying the honey and returning the comb, will, it is true, not always damage the prosperity of the hive to the extent if the combs had been altogether removed. Still, the liquid being extracted, an empty space results. If, however, the honey harvest continues only a short time after the extraction, the bees will refill the cells. But if so, and the honey is extracted again, here comes the vacuum above the bees once more. Why not arrange your combs in frames combined one above the other, and thereby obviate the necessity of revolving the brood?

J. W SEAY.

Monroe, Iowa.

[For the American Bee Journal.]

"Tanging."

The author of "*Tom Brown at Oxford*," in that elegantly written and somewhat popular work, gives some beautiful pen sketches of rural scenery and the rustic inhabitants of Old England. In portraying the character of one David Johnson, tailor and constable of Engebourn parish, who "kept the King's peace and made garments of all kinds for a livelihood," but, like many of us readers of the AMERICAN BEE JOURNAL also, "was addicted for his pleasure and solace to the keeping of bees," the learned author discourses as follows:—

"The constable's bees inhabited a row of hives in the narrow strip of garden which ran away at the back of the cottage. Now David loved gossip well, and considered it a part of his duty, as constable, to be well up in all events and rumors which happened or arose within his liberties. But he loved his bees better than gossip, and as he was now in hourly expectation that they would be swarming was walking, as has been said, in his summer house, that he might be on hand at the critical moment. The rough table on which he was seated commanded a view of the hives; his big scissors and some shred of velveteen lay near him on the table; also the street-door key and an old shovel, of which the uses will appear presently. * * * * * * In the midst of which thoughts he had forgotten all about his bees, when suddenly a great humming arose, followed by a rush through the air like the passing of an express train, which recalled him to himself. He jumped from the table, casting aside the coat and seizing the key and shovel, hurried out into the garden, beating the two together with all his might.

"The process in question, known in country phrase as '*tanging*,' is founded upon the belief that the bees will not settle unless under the influence of this peculiar music; and the constable, holding faithfully to the popular belief, rushed down his garden '*tanging*' as though his life depended upon it, in the hope that the soothing sound would induce the swarm to settle at once on his own apple-trees.

"Is '*tanging*' a superstition or not? People learned in bees ought to know, but I never happened to meet any one who had considered the question. It is curious how such belief or superstitions fix themselves in the popular mind of a country side, and are held by the wise and the simple alike. David, the constable, was a most sensible and open-minded man of his time and class, but Kemble or Akerman, or other learned Anglo-Saxon scholars would have vainly explained to him that '*tang*' is but the old word for to *hold* and that the object of '*tanging*' is not to lure the bees with sweet music of key and shovel, but to give notice to the neighbors that they have swarmed, and that the owner of the maternal hive means *to hold* on to his right to the emigrants. David would have listened to the lecture with pity, and have retained unshaken belief in his music."

Are there not bee-keepers in this our country, day, and generation, both of "the wise and the simple," who cling to this "superstition" that there is something in the "sweet music" of ringing of bells and clatter of tin pans that will cause the bees to settle; and who yet can give no good reason for entertaining such belief? Will not some one of our "learned in bees" give the origin, reason, &c., of this common practice.

THADDEUS SMITH.

Pelee Island, Ontario.

[For the American Bee Journal.]

Improvements in Bee-keeping.

Agriculture, arts and science have progressed with amazing strides within the recollection of the older and even middle-aged men of the present day. The nineteenth century is remarkable for its improvements. The application of steam power, the construction of railroads, the numerous canals, steamships and boats, the telegraph wires stretched through the land and laid in mid-ocean, together with the innumerable machines to facilitate labor in all her varied callings, evidence and illustrate these facts.

The business of the apiarian has likewise made advances by the improvement of the home of the bees, and the facilities afforded them for storing a large amount of surplus honey in good shape for market. Within the present century the writer has seen the following progress.

1. Hives with one single apartment, and the honey for use secured by the destruction of the bees. A portion of the honey in the whitest combs was saved in the comb for use. The balance strained, and the comb converted to wax.

2. An improvement was made upon this system, substituting a wooden box for the straw hive, and placing one, two, or four boxes on the top of hive, with corresponding apertures through the top of the hive and bottom of the boxes, for the passage of the bees. This gave facilities for securing a part of the honey in good shape, to preserve for use or to convey to market.

3. A third improvement has been, by an increase of surplus box room. The arrangement of the boxes in this improvement, has been in three ways:

First, by placing the boxes upon each side of the breeding and wintering apartment; with corresponding apertures between the central apartment and the boxes. The boxes of an aggregate capacity of from 75 to 100 lbs.

Second. A second arrangement has been placing two tiers of boxes upon the top of the hive, one tier standing on the other, with corresponding apertures in the entrances from the hive and bottoms of the lower tier of boxes and also between the top of the lower and bottom of upper tier. By the hive being made long and the box room may equal the first deep from 75 to 100 lbs.

Third. The third improvement is, placing the surplus boxes upon both sides and top of the central or breeding apartment, occupying the positions where the bees would store their surplus honey had the whole been one room. Brood in the centre, and stores upon the top and sides of the brood.

In 1860, I commenced my experiments in bee-keeping. I constructed my hives upon this principle, endeavoring to make improvements which resulted in the Farmers Hive, patented Sept. 2, 1862. Subsequent improvements were introduced in the Eureka hive, patented July 2, 1867. Of this hive I have given a description with illustrations in a former number of the "AMERICAN BEE JOURNAL."

4. Another improvement has been made, of considerable importance. I now refer to the introduction of bars, fixed or movable, and movable comb frames. Either movable bars with side guides, or movable comb frames, are considered a very great convenience, almost a necessity, for artificial swarming, and for the exchange of queens. Aside from these changes, which I regard as improvements, there have been many others, such as the introduction of devices to give security against the ravages of the moth, to facilitate the operations of the bee-keeper in the prosecution of his business, and to secure success. These devices may, some of them, be valuable; while the advantages of others may exist only in the imagination or professions of enthusiastic or interested parties. Every man should examine and judge of specific changes, claimed to be improvements, for himself, and adopt or reject them from the deliberate exercise of his own judgment.

The introduction of surplus boxes I consider one of the most important of these improvements, as it secures the honey in its best shape for preservation, for use and for market.

A great amount of surplus room in this shape I regard as a great improvement, as it secures a much larger amount of surplus honey, than a smaller number of boxes can. From all my experiments thus far, I prefer the hive with surplus room in small boxes of capacity of 200 lbs. susceptible of an increase to 250 lbs. if needed, to one with boxes of larger capacity. The bees in such a hive, effectually shaded and secured from the heat of the sun, will not be likely to swarm, if the boxes were placed on at the commencement of the season. An Italian colony, with a prolific queen, will generally fill all the surplus boxes.

In 1868, I had eight hives in a bee-house in which they were effectually shaded. Only one of the eight gave a swarm. Six were Italian colonies, and two natives. Neither of them swarmed, except one of the natives, upon which all the boxes were not placed until they had commenced preparations for swarming.

I observe a communication in the December issue of your Journal, from Rev. A. C. Manwell, Whitewater, Wisconsin, giving an account of his trial of the Eureka hive, in which the product of one colony of Italians was two new swarms and 165 lbs. of surplus honey in the boxes. Had they not swarmed, they would probably have stored more than 200 lbs. of surplus. This report of Mr. Manwell goes to confirm the great importance of ample box room for surplus. I will give further views in some future numbers of your Journal. Should any one of your readers wish further information, I will send it on receiving their address and stamp cover to postage.

JASPER HAZEN.

Albany, N. Y.

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[For the American Bee Journal.]

How to make Glass Surplus Honey Boxes.

MR. EDITOR :—In my early experience in bee-keeping, I endeavored to construct glass boxes for surplus honey, in the manner suggested by Mr. Quinby ; but, owing to the variable thickness of glass, and the difficulty of cutting the pieces to exactly the right size, I found that to construct a neat box in that way, required so much time and labor, that I was constrained to abandon the method.

I then tried paper fastenings, using no wood, except for tops and bottoms. This I found to answer well, and made a beautiful box. The only difficulty was to hold the glass in the proper position until the fastenings were applied. This difficulty I finally obviated by the following means : My boxes are six by six inches, and five inches high ; get out a block of soft, light wood, two and a half or three inches thick and six inches square, (nailing two or more pieces of the inner plank together, letting the grain cross, until the proper thickness is obtained, will answer as well,) get out also a square piece of plank, about three-fourths of an inch thick and eight or nine inches square, which, after sawing out of each corner a block two inches square, is to be nailed centrally to the blocks first described, the corners of which will project over the space left by removing the blocks from the corners. (The thin piece last described is to form the base of the block.) Now make a mortice or hole in the base board, on each side and about three-sixteenths of an inch from the blocks. In these insert a substantial peg or standard, with a shoulder on the outside, to hold it firmly, leaving space enough between the standard and the central block to receive the thickest glass without jamming. Make a few thick wedges, about two inches long, have your glass cut in pieces five by six inches ; place one piece on each side of the block, the lower edge resting on the base board ; insert a wedge between each standard and the glass, to hold the latter against the block. Slide the glass along until the corners are as near true as possible, (a slight opening or projection will not materially injure it.) You have now the form of your box complete. Have some strong paper (colored can be used, if desired,) cut into strips about three-fourths of an inch wide. Make a paste by dissolving two ounces of glue in a pint of water ; add a teacupful of flour well stirred with water and free from lumps ; boil until as thick as can conveniently be applied with a brush ; cut your strips of paper into lengths of five inches, apply paste, and place one centrally on each corner of the box, and with a piece of cloth press until the paper is applied smoothly. (The corners of the base board being removed, there is nothing under the corners of the box to interfere with your applying the strips of paper.) The lumber for the tops and bottoms should be of light material, and as thin as possible—about the thickness of veneering is best. Each piece (top and bottom) should be one-eighth of an inch wider and longer than the inside measurement of the box. If the boxes are 6 by 6, the tops and bottoms should be 6⅛ by 6⅛. Place the top on the box, use a strip of paper wider, if necessary, than for the corners ; apply it around the top, turn it down over the wood, remove the wedges, and with the thumbs under the base board, and two fingers of each hand, pressing two opposite sides of the box against the block ; invert it ; lift out the block when the paste is somewhat dry ; put on the bottom and fasten it in the same manner, and your box is completed.—It is best to have a number of blocks, so that they can be used alternately ; and thus allow the paste to become dry, before it is necessary to remove the block from the box. There should also be strips ½ by ½ or ¾ of an inch, nailed across the grain, on the bottom side of the base board, to prevent its warping, and to elevate it slightly for convenience in raising to invert, when the block is to be removed.

These boxes I have used for ten or twelve years. I have sent thousands of them to market, and have never yet found the paper deficient in strength. Indeed, I have had boxes to fall and the glass fractured in many pieces, and yet the fastenings failed to give way. By using gilt or other ornamental paper, and by properly combining complementary colors, they can be made of the most attractive appearance ; and in addition to this, they can be made with the greatest ease and rapidity. I have often made one hundred per day, including the cutting of the glass. A lady, or even a girl of a dozen years, can make them with great facility. I can confidently recommend all who use glass boxes, to try these, as it will cost nothing more than an hour's work to prepare the block. You may fail to get them to stand just right, the first few trials, if you use but one block ; but "try again," and you will soon wonder you ever failed at all.

I will now give you a plan for boring holes in hives or crown boards, for placing surplus honey boxes over. In the first place, I take it for granted that most of your readers use boxes with both tops and bottoms—open bottom boxes being unsuitable for transportation. It is very inconvenient to be obliged to bore more than one hole in each box, as it is some trouble to get them so that they will correspond with those in the hive or crown board. And my experience has been that, by using one sufficiently large (two inches) the combs would be extended down through it into the hive; besides the liability to have brood in the surplus boxes by the queen entering them. To obviate this, with a two-inch centre bit, bore one-fourth of an inch deep in your hive or crown board, at the point at which you wish to place a box; then with a one-inch bit, bore four holes at equal distance from each other entirely through the board and around the circumference of the large one, allowing the bit to cut into the circumference of the latter sufficient to allow one or more bees to pass. When the box (which is to have a two-inch hole through its bottom), is placed in position, it will cover the one-inch holes, but the bees will pass from them into the shallow two-inch excavation, and thence into the box. This arrangement will prevent the extension of combs into the hive, and yet afford the bees all needful facilities for entering the boxes; and I have yet to find the first queen in boxes placed over holes thus arranged. Of course there is to be a two-inch hole through the bottom of the honey box, which is placed centrally over the shallow one in the top of the hive. Those who have faith in the 5-32 of an inch arrangement, can bore the two inch hole to that depth, for excluding the queen; but I can assure them that it is unnecessary.

Now, in conclusion, I hope that none of our gentlemen of the patent right persuasion will find anything herein contained that meditates against any of their privileges, either civil, social, or religious. Perhaps these suggestions are not new, but as I have seen no allusion to boxes made in this way, I hope the piece may be of service to some who find it difficult to make neat boxes, in which to have their honey stored in the most attractive form.

I. M. Worden.

Mobile, Ala.,

P. S.—If any prefer boxes without bottoms, they can be made in the same way, by using a strip of paper $1\frac{1}{2}$ inches long for each corner, and applying it horizontally, allowing one-half of its width to project over the edge of the glass, then turning it over and pressing it down smooth on the inside of the box. Where the distance to be transported is short or by water, such boxes will be sufficiently secure; and when filled, they may be inverted and covered with glass cut the proper size.—I. M. W.

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[For the American Bee Journal.]

Part of my Experience.

Mr. Editor:—As Novice says, I must write you some account of my experience—my reverses and success in the bee business, which I think the most peculiar business of all connected with rural life. When I commenced I had no idea that it required so much study; but I would not give it up now on any account, for I can make more money out of my bees, than from anything else on the farm.

Last fall I put in to winter forty stands in movable comb hives; and on the first of May, I had seventeen left. The most peculiar thing was, I had one or two stands from which I did not take any honey, and they were the first to die; and nearly all that gave me only from thirty to fifty pounds died also; while those that gave me from seventy-five to one hundred and seventeen pounds came out all right, and are very strong now. Was it the quantity of honey retained by my bees that caused their death, or was it something else?

I procured thirty-six colonies in old box hives, in the winter at a distance of from three to six miles from my home; and I lost fourteen of them. They appeared to die from the same disease or cause that destroyed those in the movable comb hives. One bee-keeper living ten miles from here, lost fifty out of eighty stocks. More bees have died around here than I have ever known before.

Bees are doing very poorly here this year. We have no swarms, and not very much honey. It has not rained here in ninety-five days. I have lived in Illinois twenty-four years, and never saw such a dry time in all that period.

R. Miller.

Rochelle, Illinois, July 4, 1870.

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[For the American Bee Journal.]

Trouble among Bees.

Having been a reader of your valuable Journal for some time, I cannot well do without it. I would like to contribute something occasionally to the large stock of useful information with which its pages are filled, and hope to do so at some future time; but at present I wish to draw still more from the experience of others.

I suppose there are some bees in this neighborhood that have the foul-brood, but being an entire stranger to the disease (except from description) I hesitated long in the decision. It is not as rapid nor as fatal in its development as I expected. Are there different degrees, or is there a milder form of the disease? It seems to me a more particular description of the *first symptoms*, by which an *entire novice* in this disease could detect it, would be of much benefit to all. The frame hives are largely used in this vicinity. I commenced operating on the disease after Quinby's plan, by taking away the comb, and putting the bees in a new hive without comb. They commenced to build comb nicely, and filled it with eggs. After a day or two I gave them some good comb clear of disease. All went on swimmingly until the time for the young bees to come forth, when I discovered that they were being dragged out, in all stages, many of them minus wings or legs, &c., much the same as when a swarm is troubled with worms, or has had the brood killed by sudden cool weather. I examined the colony this morning, and found the bees cutting the brood comb all in pieces in their vain endeavors to extricate the young from the cells. The latter were also doing their best to get out—active and lively. Those of sufficient age had the caps of their cells removed, and in some cases the rest of the comb mostly cut away, and still they were unable to extricate themselves, being evidently entangled in the cocoons. The loss of legs and wings appears to be the result of the older bees trying to help them. There were no worms in the hive, and the swarm is rather a weak one.*

I hardly think this the effect of foul-brood, but am not sure. I have seen isolated a single young bee dragged out of the hive in a similar condition, but could usually find more or less worms at work inside. But here the entire brood appeared to be in the same condition. Will not some *sage Beeist*, if any such there be, give through the Journal such explanation as they can; and also something further on foul-brood?

I fear this article is too long; but should you deem it worth insertion, I will in my next try to give you a history of my own case of foul-brood. Some of the readers may think I ought to have done so first; but this case seemed most prominent.

Since writing the above, the July number of the Journal has come to hand. In it Mr. John M. Price has an article on prolific and hardy queens, which accords with my experience very closely. Some ten years since I attempted artificial swarming, mostly after Mr. Langstroth's plan of forced queens, but could not succeed to my satisfaction in raising good queens. Mr. Price's plan may work better, I have opposed artificial swarming for the above reason.

R. B MERRITT.

Buttle Creek, Michigan.

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* This is certainly not a case of foul-brood, for in that the brood perishes in the cells after it is capped, none issuing therefrom, or being capable of making any effort to do so. The dead larva speedily decomposes and becomes putrid, being converted into a dark brownish, viscid, fetid mass which if undisturbed, gradually dries up in the cell. There are no "first symptoms" by which the disease in its incipiency can be detected, though, to an experienced eye, its existence is betrayed early, by a peculiar hue and appearance which the capping of the cells assumes.—*Ed.*

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[For the American Bee Journal.]

Price's Sectional and Casket Bee Hive.

MR. EDITOR, and bee-keepers in general, I bring to your notice my improvement in bee-hives, which is used either in the horizontal or angling position. In this hive I have overcome all the objections to the angling position of the frames—such as the impossibility of getting straight combs in frames hung in that position, without each alternate frame being filled with comb. In this hive I have secured a warm compact breeding apartment, "movable" for large outside cases—allowing it to be wintered on its summer stand, or removed from the case to a bee-house, cellar or other repository. I have also secured the advantages of movable partitions, by using my glass honey cells—a set on each side of the sectional hive. By the removal of a cell from either side, the sections can be moved from each other, thus securing great facility and ease of handling the combs and management of the bees. I have also secured, by the use of my comb-bars, all the advantages of a shallow chamber, as a passage way for the bees over the combs in winter. And by the use of my wide top and narrow raised bottom sections, all danger of killing or maiming of the queen or bees is removed—a most troublesome and vexatious peculiarity of the square frame, from tipping, and thrice enhanced if the frames touch or lay on the bottom of the hive. It is simple and easily made in all its parts, without any complicated contrivances, thereby securing immunity from the ravages of the moth worm. As it overcomes all the imperfections of and objections to the horizontal or angling position of the combs, it will suit all tastes and preferences of position; and being perfect in itself as an inner hive, it allows of the use of all good, tight, large cases or packing boxes from the stores, which can be had cheap—thereby saving the cost of their special manufacture. Anybody who can use a saw, square or hammer, and drive a nail, can make them.

This is the only bee-hive invented that will answer, as such, in all climates; and that has simple yet efficient means for safely wintering, breeding or stimulating bees, and has all the requisites of a complete hive for the successful and profitable management of bees. The invention consists of a hive made of sections, consisting of four slats or bars attached at the corners in rectangular form, two of which are wider than the others and provided at the inside with slats for the comb bars. The said sections being confined in a rack or casket, and laid on a platform having a deep angular groove, in which the hive is laid on one corner, and may be turned from time to time, as may be required. The hive so constructed is designed to be wrapped in cold weather with canvass; and the whole is enclosed in an exterior case. The hive may be laid flat on the side, on a suitable support, if preferred, from time to time, as it is changed in position for stimulating the bees. To secure straight combs, remove the platform from the outside case and lay the casket and sectional hive flat on the bottom of the case, covering the entrance with tin or other suitable covering, (while the hive is in this position,) with a fly hole in it.

By means of this improved hive I am enabled to preserve the bees in cold weather, by wrapping the canvass cover around them, much better than can be done by the hives now in use.

My patent embraces—

1. The combination of the hive composed of the casket and internal sections as described in my specification, and the V shaped base adapted for turning the hive and supporting it in the angular position.
2. The internal sections composed of two wide bars, tapering at the top; two narrow bars; and the projecting comb bar.

JOHN M. PRICE.

Buffalo Grove, Iowa.

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The spring of 870 has not been a good one for making maple sugar. It is believed that the quantity made in Vermont this year, will but little exceed half the usual crop.

THE AMERICAN BEE JOURNAL.

Washington, August, 1870.

☞ Several communications already in type are unavoidably crowded out; and others were received too late for this number of the Journal.

☞ The article on controlling the fertilization of the queen bee, translated for this number of the Journal, will of course arrest the attention of those engaged in breeding queens. The process is claimed to be reliable, and when properly employed always successful. We trust it may be promptly tested in various quarters, and the result of the experiments communicated for publication.

To make the cylindrical queen cage required, take a piece of board three-sixteenths of an inch thick and with a brace bit, cut out a circular disc one and three-quarter inch in diameter. Now take a piece of wire gauze one and a half inches broad and six inches long, pass it around the periphery of the disc and fasten it thereto with a small tack driven into its edge through the overlapping portion of the gauze, and also at three more equidistant points on the periphery. Then, gently compressing the thus formed cylinder between thumb and finger, so as to diminish its diameter slightly at the open end, secure it by passing a piece of wire through the overlap and twisting the ends together. This completes the cage which is substantially the same as the Kleine queen cage, now generally used in Germany for confining queens on the comb.

☞ We really cannot consent to devote more of our space to the controversy which sprung up in our columns between two of our bee-keeping friends. Both have repeatedly had their *say*, and a continuation of statement and counter-statement would be alike uninteresting and unprofitable. The whole trouble obviously grew out of the mistake of an official, with which neither party had any concern or responsibility. We think if they will good-humoredly review the case they will become satisfied that enough, and more than enough, has already been said. Mistakes and misunderstandings should not be allowed to produce ill-feelings and estrangement.

Whence Came our Honey Bees?

That our common honey bees are of foreign origin is universally admitted; but it is still a matter of dispute whence they came, or when they were introduced; though it is generally supposed that they were brought from England. Those in the Eastern States may have been thence derived; but we doubt whether those in the Middle States came from the same quarter.

In a pamphlet republished in the "Historical Magazine," Vol. VI., September, 1862, page 268, entitled "GOOD ORDER ESTABLISHED" in Pennsylvania and New Jersey, in America: by Thomas Budd, originally printed in the year 1685, occurs the following passage, referring to those then colonies:

"Bees are found by the experience of several person that keep them, to thrive very well."

Hence it is obvious that bees must have been kept in Pennsylvania and New Jersey, long enough prior to the close of 1685, to make the term "experience" applicable to those who kept them. It is also well-known that bees were abundant, even in the forests of Pennsylvania, while they were yet comparatively rare in New-England, where they were introduced from "the mother country," in 1680. They must thus have been derived from a distinct importation, if not from a different stock. We incline to the latter conjecture, and for this reason: We know that the bees in the Middle States were free from the ravages of the bee moth till about the year 1805, and that this pest came thither from New-England. How long the insect existed there, before it became so devastating as to attract the notice of bee-keepers, is not known; but its progress south and west is traceable, and establishes the fact that it was a stranger south of the Hudson. Though not noticed early, it was doubtless imported with the first bees carried to New-England, for it is a fact that importations of Italian bees, whether made from Italy direct, or from Germany, always bring with them the moth or the miller, or both. This we believe is invariably the case. We are credibly informed that the trunk and wardrobe of Herman, who accompanied the stocks imported by Mr. Parsons, of Flushing, were thus infected; and observation shows that it is so common an occurrence that it may be regarded as invariably true. It follows, we conceive, that the bees of Pennsylvania and the Middle States came from a country where the bee-moth did not exist. That country, and the only country in Europe thus free and having early communication with the New World, is Sweden; and the Swedes and Finns had settlements in Pennsylvavania and Delaware as early as 1627. Mead was their favorite beverage; and they would certainly be likely to carry with them in their emigration, the means of supplying themselves with it, and would thus introduce a bee *not troubled with the moth*. *They* could do this, and emigrants from no other country could; for the bee-moth was not known in Sweden till within the last twenty years—the desire to possess the Italian bee having carried that baneful pest thither also.

Notice to Bee-Keepers.

The time for holding the National Bee-Keepers' Convention at Indianapolis, Ind., has been changed from August 10th and 11th to December 21st and 22d, 1870.

A. F. MOON,
President Michigan Bee-Keepers' Association.

CORRESPONDENCE OF THE BEE JOURNAL.

PELEE ISLAND, ONTARIO, June 21, 1870.—The season here has been very favorable for bees—the weather generally such that they could fly. Brooding has been rapid, and swarming early. My first swarm came May 29th. I have just examined it and found all the frames full, except one, and a number of queen cells capped preparatory to swarming. Although white clover is very abundant, they are storing but little honey in boxes. I would like less swarming and more honey.

A man, three miles from here, caught a stray swarm last season, which evidently came from the woods, but showed unmistakable signs of having crossed with my Italian drones. He put it in a goods box, twelve by fourteen inches, and three feet high, which they filled and swarmed this spring before my best Italian colony in a frame hive, and in a week after swarmed again. I leave the fact without any comment.—T. SMITH.

MINNESOTA CITY, June 16.—Bees are doing very well here at present, and are at work in top boxes. Some Italian stocks have swarmed five times. If everything runs smooth, and we do not have any drouth to cut off our pasture, we shall get a good yield of honey. I will keep a record of all the honey obtained this season, and wish all bee-keepers would do the same, and report next fall through the American Bee Journal.—W. ROWLEY.

PORT CLINTON, OHIO, June 16.—Bees are doing well here. Swarming and storing honey in boxes.—P. S. VAN RENSSELAER.

OTTUMWA, IOWA, June 19.—Mr. Walker, who is working for me, changed a colony of bees that had been in one hive twenty-one years. The comb was very thick and heavy on the edges; but where the brood was the cells were apparently as large as any in new comb. What do you think of that?—G. B. OLNEY.

NORWALK, OHIO, June 22.—Bees are doing splendid here this summer, have mostly swarmed, and are storing honey very fast.—C. H. HOYT.

BINGHAMPTON, N. Y., June 22.—I find the American Bee Journal very interesting and instructive. Bees are doing very well in this section this spring. Swarming commenced early. The first swarm of Italians issued on the 25th of May. All populous stocks are working in boxes, and if the season continues favorable there will be a large yield of honey. —J. P. MOORE.

BLOOMFIELD, ONTARIO, June 22.—My bees wintered finely in the cellar described on page 76, Vol. V, of the Bee Journal. I have forty-five old stocks—black and hybrids, and have had six natural swarms. Bees are storing honey rapidly from white clover. Some colonies have stored fifteen to twenty pounds in boxes.—G. CORK.

AMESBURG, MASS., June 22.—The bees are doing finely this season in these parts; that is, such as were wintered well. We have had plenty of rain to keep the white clover blooming; and I have one-fourth of an acre of Alsike clover this season, which the bees like well. I shall have some boxes of honey to take off this week. Success to the American Bee Journal.—A. GREEN.

MAHOMET, ILLS., June 22.—Bee-keeping is progressing rapidly in this country. The Langstroth hive is in use with us, and find it far ahead of any other hive. Bees are doing finely here this season. A great deal of swarming is done artificially with us.—J. B. CHERRY.

OWEN SOUND, ONTARIO, June 22.—Inclosed you will find two dollars, subscription to the American Bee Journal for another year. I would not do without it for twice its present price.—J. MILLER.

BLOOMFIELD, IOWA, June 23.—Bees in this vicinity have not done very well until within the last seven or eight days, and had got pretty nearly through with their last year's honey, but are now storing honey very rapidly. I know of only one natural swarm having issued yet, though I have had two issues which could hardly be called natural swarms. I removed the queen from one colony for the purpose of having queen cells constructed, and did not watch them quite close enough. I found, after the swarms issued, that there was a young queen with it, and one in the old hive. The other swarm came from a colony that had lost its queen unknown to me. This swarm had two young queens, and the old stock had one. We expect, if pasturage continues good for eight or ten days longer, to have some swarms, unless precautions be taken to prevent swarming.—J. P. FORTUNE.

CASTLE CREEK, N. Y., June 25.—Before I had the Bee Journal I would not, for any price, open a hive with bees in it; and did not know the use of the movable comb hive; in fact, I knew nothing about bees. I now have thirty stocks, eight of them Italianized, and shall have them all changed to the "golden bands" by fall. I have one hive with twelve 5-lb. boxes in it, all full, and nearly every cell sealed. They will be ready for market in two days. The white clover season is not more than half gone yet. Who can beat that for honey in sixteen days? I was obliged to make a honey slinger to empty combs for my young queens to lay in this week. I have five hives from which I had taken their queen, and given them young Italian queens too young yet to commence laying; and as fast as the brood hatched the cells were filled with honey, leaving no chance to deposit eggs. But I have remedies at hand for that now. Success to the American Bee Journal and all its readers.—C. L. FRENCH.

ATCHISON, KANSAS, June 26.—Bees are doing better here this year, so far, than I have known for some years.—J. BELZ.

PERU, OHIO, June 28.—Bees are doing well here. Mine have had the swarming mania, but it is about over now. I never saw bees work on red clover before, as they do to-day—much more than on white clover. The Alsike is their "hobby."—F. F. NUNN.

CINCINNATI, OHIO, June 28.—As soon as I can find time, I shall try to answer to the satisfaction of some of our friends the two questions—"*Can bees be kept in cities?*" and "*Are bees profitable?*" I have taken from my twenty hives of bees already over twelve hundred (1200) pounds of honey, partly machine strained and partly in combs in small frames, and my hives are full now.—C. F. MUTH.

ATHENS, OHIO, June 29.—No end to bees and honey this season. *Natives beat* the Italians all to smash!—J. W. BAYARD.

ANNAWAN, ILLS., June 29.—The weather is extremely hot. Bees are gathering a large amount of honey, and swarming but little.—W. TROYER.

RICHMOND, OHIO, June 29.—Bees are doing very well in this part of the country. They have swarmed very extensively, and have stored a large amount of honey. I have several hundred pounds of box honey ready for market, which I can sell at thirty-five cents per pound on hauling it ten miles. My best wishes for the American Bee Journal and its success. I think it the best of its class in the United States.—J. W. TAYLOR.

Broad Run Station, Va., June 29.—My bees are doing splendidly, and I hope to reap a good profit from them this year, if the weather only keeps *seasonable*.—H. White.

Clifton, Tenn., June 29.—Enclosed find two dollars for the sixth volume of the American Bee Journal; as I am a new beginner in bee-culture (on the new system) I cannot well do without the valuable information obtained by its perusal. About three months of the best part of the season has been lost to bees here, as they gathered no honey till about the 20th of this month. Previous to that time there was not more than one swarm from one hundred colonies. Several stocks starved during May and June, caused by many blossoms being killed by the late frosts; and others afforded no honey.—C. Weeks.

Pleasant Hill, Ky., July 1.—The May number of the American Bee Journal, from some unknown cause, has never come to hand. Please send me a copy. I felt as much disappointed at its non-appearance as a hungry steed tied to an empty manger. It seems to be as necessary an adjunct to the apiarian as fertilizers are to the horticulturist, and its perpetuity has become very desirable. Present indications seem to favor that happy result.—B. B. Dunlavy.

Ligonier, Pa., July 4.—The bee business has been an uphill one here the past two years, but the present is one of the best I ever saw for swarming and gathering honey.—W. Ashcom.

Lexington, Ky., July 7.—I have obtained from eighty stocks of bees four thousand (4,000) pounds of surplus honey, this season, making an average of about fifty pounds. Don't that do pretty well?—D. Berbank.

Batavia, Ills., July 8.—The season, thus far, has been poor for swarming, in this section, on account of the dry weather. We have had no rain since April until this week. The honey season is past. My boxes will be only about half filled, and the season will be a poor one in this section.—S. Way.

Lima, Ohio, July 11.—Bees have been doing finely since June 10th, when we had several good showers of rain. Previous to that it was extremely dry; no rain to do any good for seven weeks. But since June 10th the bees have filled their hives to overflowing, and are filling surplus boxes. Last week I put my honey machine at work, and emptied out of the combs a lot of as nice honey as any one would wish to see (as well as eat). I use one of J. L. Peabody's machines, and it works complete, coming fully up to my expectations. It is so simple that there is no liability to get out of repair. With ordinary care it will last a lifetime, and pay for itself every year three or four fold, with say fifty hives of bees. All that is wanted for every bee-keeper to get value received, in both honey and bees, is to subscribe for the American Bee Journal.—S. Sanford.

After giving the above encouraging report from Dr. Sanford, we think we cannot well do otherwise, in accordance with the dictates of strict impartiality, than insert the following lugubrious letter from one who seems to have been grievously disappointed and become thoroughly disgusted with bee-keeping, or *attempted* bee-keeping rather, for he evidently could not succeed in *keeping* bees. How he managed to come out so miserably "at the little end of the horn," is probably past finding out, unless he will favor us with a detailed account of his mode of operating, which we should be pleased to receive for publication. Certainly he read the Bee Journal to little purpose during the short time he received it, and it is wise in him to abandon bee-culture, though it may be hard to find any other pursuit to suit him better, if he is not conscious of the true cause of his failure in this. Much obliged for the payment of the balance due, in view of which he ought certainly have better "luck" hereafter; which we most cordially wish him.

Rochester, Wis., July 11.—I wish to pay for the Bee Journal sent to me at Warren, Ills., to date, and have it stopped. I have lived on written and pictured sweetness long enough. Since I began taking the Journal I have run out two lots of bees, and have on hand sixty dollars' worth of useless hives and a very small lot of patience with you or anybody else on the bee question. I send enclosed three dollars, which I think will pay up; and if you knew my experience, circumstances, and feelings, you would be sublimely thankful to get it. Whenever I get time to destroy another lot of bees, or money to buy half a dozen patent hives that will draw the honey from the flowers without bees, I will renew my subscription. Until then I may wait in blissful ignorance of the great inventions and discoveries in bee-culture.—N. Woodworth.

Brandywine Hundred, Del., July 12.—Our bees have swarmed more than usual this season. They do not seem to have much surplus honey. I am so situated that I have to be away in the swarming season, and the swarms are taken by the women folks, except in some cases where they happen to get a little ahead and take French leave.—G. W. Harriett.

Hubbard, Ohio, July 13.—It is a good season for bees in this section, where there is a good deal of white clover, and the bees work on it very lively. One of my stocks (an Italian), though in a large hive, with plenty of room, was determined to swarm. The swarm came out four different days, but always went back. So I took out four frames—three of honey, and one of brood with several queen cells on it; cut out all the queen cells but one; put these frames with al the bees on into an empty hive, moved the old hive off of its stand and set the new one in place. I could not conveniently cut out the remaining queen cells, as the combs were not all straight on the frames. In a few days both the old and the new hive swarmed. I took away the queens and returned the bees, but they came out again the next day; and several days after, one morning, I found *ten* dead queens in front of the old hive, and at another time *two*. I caught five queens one day from two swarms, and at other times killed at least six, and cut out four or five cells. They must have had at least *twenty-five* young queens raising. I was sorry I could not make use of them, as they were very good Italians.—J. Winfield.

Tiverton, Canada, July 14.—I am satisfied that I have come to a better locality for bee-keeping than Lancaster. My bees are doing wonders here; and so they may, for I never saw more white clover than we have here, and as it is natural to the soil, we shall have plenty of it till frost comes.

I met rather a singular thing the other day—namely, two queens in one hive. Of course, young queens are often found together in one hive; but it was the mother and daughter that I found together on the same frame. The way it occurred was this: I divided a hive. In my operation I discovered a queen cell sealed over, but I failed to see the queen; so I happened to put the queen and queen cell into the same box, and in about ten days afterwards, when I went to destroy all the queen cells but one, in the box which I supposed contained them, I discovered the mother and daughter on the same comb. I never met the like before, for in such circumstances the old queen generally destroys all the queen cells.—J. ANDERSON.

BYRON, MICHIGAN.—Enclosed please find two dollars for the American Bee Journal for another year. As for me, it is honey in the comb, and I cannot do without it, so hurrah for the Bee Journal. Now, about my bees. Last fall I had sixty-seven colonies. Intending to winter most of them, some twenty were put in a special depository, some were placed in a bed-room, and the residue were left on their summer stands. The result was that sixty-two of the sixty-seven, during the winter and spring, went "where the woodbine twineth," up, up, up. All, I believe, died with cholera, caused by using thin or watery honey, as with us the last was a very wet season. But, as I am a full-blooded Yank from old Connecticut, I pitched in on a small scale (Gallup like) and bought sixteen colonies in old box-hives, and now (July 11) have had forty swarms from eighteen old stocks (three have not as yet swarmed), allowing them to do as most inclined—that is, doing their own swarming; and all of them are doing a smashing business. As I have not a honey-slinger some of my early swarms have gathered and stored at least a wheelbarrow load of the most luscious of all sweets, which, in part, was extracted from the pink blossoms of Alsike. I have eighteen acres of this clover just over the fence enclosing my apiary, and, with last spring's sowing, have forty acres on the ground. I am thoroughly convinced the Alsike will be the staple clover for pasturage, hay, and all soiling purposes, as it does not heave by the frosts of winter and spring. My Alsike will do to cut about the 20th of this month (July), and all who have examined it think it will produce six bushels clear seed to the acre.

As to the Italian bees, I am confident of their superior qualifications in honey gathering, as also in sending out larger and earlier swarms. Besides their just symmetry and beauty of color, they are more docile and less inclined to sting. As to hybrids, all I can say in their favor, is they are great workers, and perhaps as prolific, but notorious thieves among the honest class of *people*. Their natural propensity is to be "*boss*," so that when they begin to give orders one might as well begin to "skedaddle."

I intend to keep none but pure Italians, and am Italianizing my apiary and some others.

And now, Mr. Editor, if you see fit to transfer any part or the whole of this to the Journal, you are at liberty to do so; but if not, throw it among your waste paper, and I shall remain as ever your obedient servant, and well-wisher to the American Bee Journal. So again, I say hurrah for the man who is doing most for the promotion of bee-culture.—O. E. WOLCOTT.

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[For the American Bee Journal]

Feeding bees building comb.—Will it pay?—An experiment.

One month ago, or about the 12th of June, I hived a swarm of bees in an empty Casket hive, to test if it would pay to feed. The swarm was only of medium size. The queen unfortunately was a cripple and died. But I had taken the precaution to give them a sealed queen cell. So for a week, or until the young queen came out to be fertilized, they did not fly much, and only used half a pound of sugar from the feeder. I then fed the 8½ lbs. of coffee sugar, through the glass fruit jar vacuum feeder, in the proportion of half a pound of sugar to two pounds of water. They rapidly filled up with comb, although not any of my other colonies seemed to be storing any above their daily wants. (We have had here a long drouth all through the spring, which still continues.) Then the basswood came into blossom, and they have done well. To day they weigh, (over and above the Casket,) comb and honey, thirty pounds.—The Harrison or Novice bee-feeders are all right to feed late in the fall or in winter, as you have to use four or five pounds of sugar to one of water, but would be useless as a summer feeder, as the feed has to be concentrated; and feeding such concentrated feed to bees, is about as profitable as feeding a workhorse on Kingsford's Corn Starch or the best Arrow Root.

The readers can judge for themselves, taking into consideration the loss of queen, and the drought, as well as the smallness of the swarm, and the present weight of comb and honey, whether the feeding pays.

JOHN M. PRICE.

Buffalo Grove, Iowa, July 12, 1870.

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[For the American Bee Journal.]

Improvement of Stock.

In the AMERICAN BEE JOURNAL for July, I notice inquiries by Alonzo Barnard, that are worthy of consideration. I have had some experience in changing the locality of bees, and found it highly beneficial. I have known a swarm from the woods put in a yard containing eight or ten stocks of bees, and in a few years all the bees in the yard would be the progeny of the wild swarm. I advise to raise stock only from the best colonies, and those having the most prolific queens; keeping all others in non-swarming hives, storing honey. Thus native bees may be very materially improved, as may the Italians likewise: and although bee stock has been greatly improved within a few years, there is still much that may be done to advantage in that line.

Now, while I urge the improvement in stock, allow me to call attention to improved supplies of bee forage. Fruit trees furnish food for man and bees, so also clover and buckwheat. But clover is the honey staple—honey from it bringing the highest price in market. I have found the Alsike or Swedish clover much superior to the white, in quality and quantity of the honey produced, besides furnishing better fodder than either the red clover or the white. This clover should be so managed as to have it come in blossom in succession, some early and some late, by sowing in early places, or cutting or feeding back. *Ten times the amount of honey now raised in the States may be obtained*, if the pursuit of bee-culture receive the attention it deserves.

The season in this section of country has been quite unfavorable for bees thus far—moderate swarming and honey supplies short.

JOEL CURTIS.

Raleigh, N. C., July 18, 1870.

AMERICAN BEE JOURNAL.

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AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

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[Translated for the American Bee Journal.]

The Foulbrood Question.

The following remarks, made by the Rev. Mr. Kleine, before a convention of bee-keepers in the town of Meppen, province of Hanover, Prussia, present a succinct account of the present state of this subject abroad.

"The question propounded in our programme," said Mr. Kleine, "and which I have been requested to consider, may properly be thus subdivided—first, Has any efficient remedy for foulbrood been devised? and, secondly, What are we to think of Lambrecht's theory?

"I wish I could answer the first interrogatory with a positive *aye*. If I could, I should regard myself entitled not only to your thanks, but to those of the entire bee-keeping community; for foulbrood is confessedly the direst evil that can befall the bee-keeper, and the appearance is, at present, that it is likely speedily to spread everywhere, where bees are cultivated.

"Remedies in abundance have, indeed been suggested, and recommended as efficient and infallible But when we come to investigate them, we seek in vain for any solid reason why curative qualities should be attributed to them; and we usually find that the alleged recovery of diseased colonies can fairly be ascribed to something else than the application of those vaunted remedies. Possibly, too, the real disease,—the genuine, virulent, contagious foulbrood, did not exist, and the boasted cure consisted merely in the apparent arrest and removal of some simple malady which, in the course of nature, would speedily have run its harmless course and disappeared, and with the cure of which the medicaments or treatment employed had, in reality, no connection whatever. How indeed can it be possible to devise and apply an efficient remedy for a disease of the origin and nature of which entire ignorance has still prevailed.

"Dr. Asmusz conceived, some years ago, that he had discovered the cause of foulbrood in a minute winged insect—the *Phora incrassata*; and the Baron of Berlepsch coincided with him in opinion. The doctor supposed that the parent fly deposited her eggs in the larvæ of the bees, which, dying in consequence and putrifying, thus generated the devastating disease. It happens, however, that the Phoridæ do not deposit their eggs in living organisms, but, under the impulse of native instinct, in dead bodies only. Consequently it does not and cannot cause the dreaded disease.

"Again, Mr. De Molitor assigns to it a similar origin,—but instead of the Phora, regards some ichneumon-fly as the perpetrator of the evil—unless, indeed, he regards the Phora itself as an ichneumon. But this notion, too, is obviously untenable, for if ichneumon-flies laid their eggs in the larvæ, those eggs must surely hatch and the insect develop there, at least in its first stages; but on placing a foulbroody comb under glass, and watching it closely, nothing of this sort is found to take place.

"The Baroness of Berlepsch supposes the cause of foulbrood is to be found in the use of movable comb hives, and the various manipulations—oftimes needless—which the facilities afforded tempt the apiarian to undertake. Were this diagnosis correct, the remedy could readily be found. It would only be necessary to discontinue the use of such hives, and return to the ancient fixed comb system, to be safe from the inroads of this pestilence. But alas, it is only too well known that foulbrood existed extensively long before Dzierzon was born, and that it prevails where the fixed comb system is most rigidly adhered to.

"Others imagine that the disease has its origin in malarious vapors, in some kind of fungus, in a diseased condition of the sexual organs of the queen, in an imperfect fecundation of the egg, or even in a noxious state of the fluids of the bee-keeper's body, &c., without, however, by any of these surmises or suggestions, furnishing us with an available clue to a remedy, from the application of which a favorable result might be expected. Obscurity and doubt still involve the inquirer, and he quietly 'gives it up;' while the more practical bee-keeper, perplexed and baffled, finally resolves to resort to the radical remedy of the brimstone pit and the 'parlor match'—thus effectually *curing* his colonies.

"So matters stood in regard to this puzzling question, till, in consequence of a communication from the Directors of the Central Committee of the Hanover Agricultural Society, respecting an alleged cure of foulbrood which Mr. Fisher claimed to have devised and successfully employed, the Hanover Centralblatt opened its columns for further discussion of the topic.

Entered according to Act of Congress, in the year 1870, by Samuel Wagner, in the office of the Librarian of Congress, at Washington.

"I had given it as my own opinion that the disease was probably, in most cases, produced by feeding infected honey derived from foulbroody colonies; but that we were still constrained to believe that it had also an independent origin, which would probably be found in some deleterious substance mixed with the nutriment of the bees.

"A reason for this assumption I found in a communication from Mr. Hoffman to the Eichstadt Bienenzeitung, in which he stated that in all foulbroody colonies examined by him, he found most of the pollen in the cells covered by a slimy, fatty substance and the pollen itself in a state of fermentation. I then said that if this discovery be confirmed by further observation and scientific investigation, deteriorated pollen would probably be found to play an important part in the production of the disease in question, and perhaps account for the well known fact that in colonies infected with foulbrood, the larvæ die only after being sealed up. I also expressed the hope that we should have the aid of science—especially of physiology and chemistry—in the further prosecution of the inquiry; as it is only by ascertaining the nature and origin of the disease, that we could hope to obtain the means of effectually counteracting and controlling it.

"We had to wait long for these elucidations, but they have come at last, and we may well be proud that the Hanover Centralblatt contributed so materially to the result so far.

"I now come to the second subdivision of the question—What is to be thought of Lambrecht's theory?

"This theory is briefly thus: Pollen, in peculiar circumstances, and under the influence of heat and moisture, begins to ferment; and the fermentive process is then communicated to the honey. If this fermenting nutriment be now fed to the larvæ, their organism becomes thereby deranged and disorganized, they die and putrefaction follows. Here we find the original source and cause of foulbrood. The detailed explanation of this so simple theory, given with the directness of scientific demonstration, yet in popular language readily understood, is contained in the pages of the Centralblatt. Its correctness is not to be doubted, for the proof of it is clearly furnished by this simple experiment: Expose a mixture of pollen and water to the heat of the sun, or otherwise to a temperature sufficiently high to bring on fermentation, and feed therewith the bees of a colony containing larvæ just hatched, and foulbrood will speedily be produced in the hive. I made this experiment myself in the summer of 1868, and though I felt some misgivings before, every doubt was dissipated by the result obtained, for the thus infected colony might have claimed a premium as a prime prize case of the disease. I here submit to the convention, for inspection, a piece of foulbroody comb thus obtained. The contagiousness of the artificially originated foulbrood is also demonstrated by the fact, that the disease has been communicated from it to several other colonies in my apiary. Other bee-keepers have repeated this experiment with like results; so that there is no longer room to doubt, or to suspect deception.

"The fermented or fermenting condition of the nutritive matter with which the larvæ of bees are fed, is thus, according to Lambrecht's theory, the cause of foulbrood. I doubt much whether this scientifically grounded doctrine will ever be scientifically refuted.

"We have here, accordingly, the point at which the insidious foe is to be attacked, if we would hope for success. This, Lambrecht alleges that he does, and claims that he has devised a reliable method of cure, as shown in the experimental case at Brunswick. To doubt the truth of the statement made by the committee superintending that experiment, would be to impugn the untarnished honor of those gentlemen. But unfortunately, we are not yet made acquainted with the composition of Lambrecht's remedy. For the present, he treats it as a secret, intending to publish it in a pamphlet and thus compensate himself for his discovery. For this, he has been subjected to reproach and abuse. Allow me to express my surprise at this. We find fault with Lambrecht for that which we approve in ourselves and others. The inventor strives to secure to himself the profits of his invention by taking out a patent; and the author indemnifies himself for his labors by procuring a copyright, or accepting a premium from his publisher. I have not hesitated to accept such compensation myself, when the opportunity was properly presented; and others, here, I presume, may find themselves under like condemnation. Why then cast stones on Lambrecht, who, probably, has very valid reasons for imitating our example, for his experiments presuppose a large sacrifice of time and money on his part.

"I will not deny that, for one, I should have preferred if Mr. Lambrecht had disinterestedly published his curative process in a communication to the Centralblatt. For if No. 7 of the volume for 1868 is now out of print, in consequence of the increased demand created for it by his first article on the subject, there is no doubt a very large edition would have been required of the number containing his cure; and what a powerful impetus that would have given to the success of the Centralblatt! But I should have been ashamed to approach Mr. Lambrecht with a request based on calculations so selfish, when I understood that he intended to reserve the information for his own benefit. But there is thus within our reach a secret of great importance and value to all bee-keepers; and since we have no prospect of obtaining a knowledge of it in any other way than by the publication of his pamphlet, I advise you all to subscribe for it and induce others to do so likewise, so that the work may speedily be published, and the veil withdrawn that possibly conceals a matter of vital importance to bee-culture.

"Mr. Lambrecht was requested by the President of the Nuremberg Convention to attend its meeting, and present his theory among the regular orders of the day, for discussion. I felt confident he would comply with the request, and considered that the most suitable mode of bringing his theory to the knowledge of the bee-keepers generally and securing the required number of subscribers to his pamphlet. But, according to the report of the proceedings, the result was just the reverse. Mr Lambrecht, we are told, *failed altogether!* And how? He was refused a hearing! How this is to be explained, I know not. Heretofore, the Convention was ever disposed to invite and allow free discussion of all questions pertaining to bee-culture, whether of a theoretical or practical cast; and to accept, with enthusiastic applause every new invention or device tending to advance the favorite pursuit of its members. But this I know for certain, that Mr. Lambrecht's theory, despite of this opposition, will work its way, and finally meet with universal acceptance. I therefore beg this respected assembly not to withhold due attention to this important matter, but to contribute all they can towards a full compliance with the stipulations on which the speedy promulgation of Mr. Lambrecht's curative process depends."

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[For the American Bee Journal.]

Polanisia Purpurea.

Mr. Editor:—I would like to give the readers of the journal my experience with the Rocky Mountain bee plant *Polanisia purpurea.* In 1868, I had the pleasure of receiving some of the seed from Mr. J. L. Hubbard, then of Walpole, N. H.; and from sixteen plants that grew, I got six quarts of seed. It comes into bloom about the last of July, and continues till frost comes. The bees work on it from morning till night.

In selecting honey-producing plants, it should be the aim of the bee-keeper to plant such as would be of benefit to stock or poultry as well as bees. Now I find that my poultry will eat the seed of the Polanisia in a short time as readily as buckwheat; and there is no plant on my farm that stands the drouth equal to it. At present (July 25th) we are having a very severe drouth and extreme heat, yet with the temperature ranging from 90° to 108° in the shade, not a leaf of the Polanisia wilts; on the contrary, it is making a very rapid growth. Taking everything into consideration, I think it is worthy the attention of bee-keepers.

A. Green.

Amesbury, Mass.

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[From the London "Journal of Horticulture."]

Bees in Borneo and Timor.

Having recently perused Mr. Spencer St. John's very interesting work on Borneo, published in 1862, under the title of "Life in the Forests of the Far East," I have made notes of several passages relating to the apian aborigines of that magnificent tropical island:—

Speaking of the agricultural pursuits of the "Sea Dayaks," Mr. St. John says—"They obtain beeswax from the nests built on the tapang tree, and climb the loftiest heights in search of it, upon small sticks which they drive in as they advance up the noble stem that rises above one hundred feet free of branches, and whose girth varies from fifteen to twenty-five feet. Once these pegs are driven in, their outer ends are connected by a stout rattan, which, with the tree, forms a kind of ladder. It requires cool and deliberate courage to take a bee-hive at so great an elevation, where, in case of being attacked by the bees, the almost naked man would fall and be dashed to atoms. They depend upon the flambeaux they carry up with them, as, when the man disturbs the hive, the sparks falling from it cause, it is said, the bees to fly down in chase of them instead of attacking their real enemy, who then takes the hive and lowers it down by a rattan string. The bees escape unhurt. This plan does not appear to be as safe as that pursued by the Pakatan Dayaks, who kindle a large fire under the trees, and, throwing green branches upon it, raise so stifling a smoke that the bees rush forth, and the man ascending takes their nest in safety. Both these operations are generally conducted at night, although the second might be, I imagine, practised in safety during the day."

With regard to the "Land Dayaks" it is stated, that "To the left of the Sirambau are some very fine tapang trees, in which the bees generally build their nests; they are considered private property, and a Dayak from a neighboring tribe venturing to help himself to some of this apparently wild honey and wax would be punished for theft." This is the first hint that is given of bees being considered in any respect as private property, but the following passage would seem to indicate that the dome tication of the honey-bee is not altogether unknown in the island:—"During the night, our rest was much disturbed by bees, which stung us several times, and Mr. Lowe, with that acuteness which never deserts him in all questions of natural history, pronounced them to be the 'tame' bees, the same as he had last seen thirteen years ago among the Senah Dayaks, in Sarawak. About midnight we were visited by a big fellow, who, our guides assured us, wanted to pilfer; but we found next morning that he had come to complain of his hives having been plundered. On inquiry, we discovered the man who had done the deed. He was fined three times the value of the damage, and the amount handed over to the owner."

During one of his adventurous expeditions up the river Limbang, Mr. St. John found a Pakatan named Japer, who accompanied him, a storehouse of information. He had a thorough faith in ghosts and spirits, and told of many an adventure with them, and of the Antus who caused the death of the wax-hunters, by pushing them off the mengiris or tapang tree. When the unfortunate men, from inefficient preparations, as their companions not keeping up a great fire under the trees to stupefy the bees, are so stung as to let go their hold, the natural explanation is never taken; they fly to their superstitions. Japer's nephew saw one of these tapang ghosts, and managed to keep his eye upon him and prevent him pushing him off, he came down without accident, but without any wax. I suggested that he invented the ghost to excuse his timidity, which Japer thought probable. To-day we passed one of these lofty trees bearing above twenty bees' nests, among them four old ones white with wax.* As the country is full of tapangs, in which alone do the bees build their nests, the stories of the great amount of wax formerly procured in this district may be true. Why do the honey-bees generally build on one particular tree? Its being the finest in the forest is no good reason, perhaps there is something enticing in the bark. I say 'generally,' because, though I have never seen their nests on other trees, yet I have often come across them in the crevices of rocks."

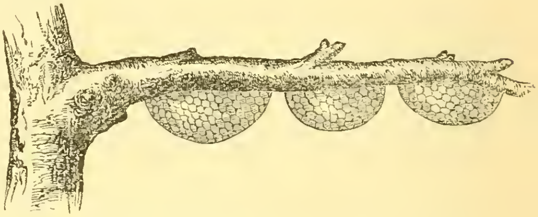
In a subsequent part of his journal of the same expedition, our author says—"I never was in such a country for bees, they everywhere swarm in the most disagreeable manner, and ants and other insects are equally numerous." When on their return and nearly starved, the party had "a very happy find, for while passing under a fine tapang tree we noticed the remains of a bees' nest scattered about, and every particle was eagerly appropriated. From the marks around it appeared as if a bear had climbed this lofty tree and torn down the nest to be devoured by its young below, as there were numerous tracks of the smaller animals around, but whether the comb had been sucked by the bears or not was very immaterial to our men, who rejoiced in securing the little honey still clinging to it."

The party appears only once to have fallen foul of a hornet's nest. The encounter and its results are thus described:—"It was in following the bed of the Rawan that I was stung. Notice was given by the guide to leave the direct path, and we all did; but I suppose some one disturbed the hornets, as they attacked me with a ferocity that appears incredible: many flew at me, but two fixed on my arms and stung me through my double clothing. They poised themselves a moment in the air, and then came on with a rush which it was impossible to avoid. The pain was acute, but I saved my face. I tumbled down the steep bank in a moment, and throwing aside rifle and ammunition, plunged up to my eyes in a pool until the buzzing ceased and the hornets had returned to their nests. Some of my men were also stung; they squeezed a little tobacco juice on the wounds, and they say they felt no further inconvenience. I tried it about an hour afterwards, but it did me no good. I had no idea that the sting of this insect was so severe; my right arm swelled up to double its natural size and was acutely painful; now, on the second day, it is much less so, but as the swelling continues it is impossible to use it much."

That wild bees are exceedingly abundant in the forests and jungles of Borneo may be inferred from the foregoing passages as well as from the numerous references to parties of native "wax-hunters," which occur in almost every chapter of the work. Although no clue is given by Mr. St. John to the identity of the Borneon honey-bee, or any information as to the manner in which it builds its nest, I am enabled in some measure to supply the deficiency from other sources.

Some half dozen years ago I received from Mr. Charles Darwin, the distinguished naturalist, a few specimens of bees named Apis testacea (Smith), together with two pieces of their comb. Although these had been brought by Mr. Alfred R. Wallace, the celebrated traveller and author of "The Malay Archipelago," just published, from the island of Timor in the Eastern Archipelago, I believe them to be the same as those which are indigenous in Borneo, so that there appears little reason to doubt that these are the bees referred to by Mr. St. John. On examination I found them half as long again as Apis mellifica, and their brood comb proportionably thicker. They were in fact, a variety of the magnificent Apis dorsata, which is described as flourishing abundantly throughout the great Indian peninsula, from Cape Comorin to the Himalayas, as well as in Ceylon.

Mr. Darwin subsequently introduced me to Mr. Wallace, to whom I am indebted for the following particulars:—"In Borneo and Timor the wax forms an important article of commerce. The combs hang on the under side of horizontal limbs of lofty trees, often one hundred feet from the ground.



"I have seen three together as above, and they are often four feet in diameter. The natives of Timor I have seen take them. They climb up a tree carrying a smoke torch made of a split creeper bound up in palm leaves, and hanging by a rope from their waist. They cover up their body and hair carefully, but their arms and legs are bare. The smoke directed on the comb makes the bees fly off in a cloud as the man approaches. He sweeps off the remainder with his hand and then cuts off the comb with a large knife, and lets it down to his companions below by a thin cord. He is all the time surrounded by a cloud of bees, and though the smoke no doubt partly stupefies them, he must be severely stung. While looking on from a considerable distance a few came down and attacked me, and I did not get rid of them till I was half a mile from the place and had caught them all, one by one, in my insect net. The sting is very severe. I should imagine that in Timor the dry season answers to our winter, as the drought is very severe and much of the foliage is deciduous. Eucalypti are the most common trees, and their flowers I suspect supply the bees with their honey. In Borneo combs are placed in a somewhat similar manner, perhaps formed by the same species. The only bee I have seen domesticated in the East is one at Malacca, the natives hang up bamboos and hollow logs for it, but it is, I believe, not a true Apis, as it makes clusters of large oval shells of black wax."

I may add that the Timor bee was named Apis testacea on account of its color, which is very light, and is, in fact, the only point in which it differs from Apis dorsata. When some years ago I compared the specimens in the British Museum, I became impressed with the idea that those which represented Apis testacea were nothing more than newly-hatched and immature specimens of Apis dorsata, and so strongly did I urge my views upon Mr. Smith, that I believe I almost induced him to doubt the correctness of his own nomenclature, until he was afterwards assured by Mr. Wallace himself, that they were really mature and fully-developed adult bees. — A DEVONSHIRE BEE-KEEPER.

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* More probably *new* ones.—A Devonshire Bee-keeper.

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Management of Bees in Winter.

The following address on this subject was delivered by Mr. E. ROOD, of Wayne (Mich.), at the Michigan Bee-keeper's Convention, held at Lansing, on the 23d of March last. The crowded state of our columns and files at the time it was received, prevented an immediate insertion, and its appearance now will probably be all the more opportune and serviceable — ED.

If there be no objection, I would like to reverse the order of the time or statement of the subject which I am expected to discuss, as the spring management follows that of the winter.

The winter management, of a necessity, involves some things that must be done in the fall; and let me premise by saying that almost, if not all of the operations and manipulations of bees, are quite simple, when the natural habits and requirements of the insect are well understood, and with a reasonable amount of intelligence and perseverance the object is accomplished. Let me assure new beginners, and those that have not begun, that the honey will much more than compensate for the labor bestowed upon them, as I know of no branch of rural pursuits that, in dollars and cents, pays as well. And the pleasure derived from a study of their nature and habits, will far more than compensate, in a scientific point of view, for all their stings.

In preparing for winter, of necessity it is incumbent upon us to see or learn that they have sufficient food to carry them through until they can procure it for themselves;—say twenty or twenty-five pounds if wintered in a special depository, and twenty-five or thirty if wintered on their summer stands.

We should then remove the surplus honey-boxes as soon as the first hard frost; as, if they remain on, the bees will the next day carry into the breeding apartment all that is not capped over; and I have seldom or never known a swarm but what had enough in the body of the hive to winter on, if they had stored any in the surplus boxes.

Next, weigh one or more empty hives, to which weight add, say ten pounds for weight of bees, combs and bee bread; then the first cool day proceed to weigh every swarm,—*no guessing about it.* Mark the net weight of honey upon the same corner or place on each hive.

Next, the first fine day commence to equalize the amount of honey in the various swarms; if in movable frames, taking from the heaviest and giving to those that require feeding; if not in movable frame hives, the light ones must be fed in the evening with some of the various feeders, and a good swarm will carry from five to eight pounds to the combs in a night. They may be fed on a syrup made of clarified sugar, but the syrup should never, nor should honey be kept, melted, dissolved, or fed from copper or brass vessels, as it has been ascertained that verdigris will cause foul brood.

We have now provided our bees with sufficient food for winter, and why should we not? We provide (or should), a sufficient supply for each sheep, and certainly the profits of a swarm of bees are as great as from a sheep—aye, and far greater—and they do not require one-fourth part of the care and attention.

I know of but one other preparation for wintering. In almost any apiary there will be some small swarms and some destitute of queens, they may and should be doubled up, but no two large swarms should be put together—they will not do well.

We are now ready to put our bees into winter quarters. The exact time for removing them to the quarters cannot be now definitely determined. If there are any small swarms, it will be well to put them in somewhat earlier than the large ones; as there is not as much animal heat, and those upon the outside of the cluster become chilled and perish; perhaps the first of December, as a general rule, will be the correct time.

Now for the winter quarters. If they are wintered on their summer stands, it would be much better if the yard was enclosed with a high board fence, or something to break off the winds. The fly-holes should be nearly closed, so that it will be one-half or three-fourths of an inch in size, that it may not get stopped up with dead bees, also that but a trifle of air may enter, thus preventing much draft, and as upward ventilation is almost absolutely necessary, there should be openings in the top of the hive for the vapor to escape, but the openings should be protected in a manner to prevent the wind from driving into them. There are many ways, as laying on five or six inches of straw and placing the roof on it, or a board and some weight to keep it in place, or the cover to the honey boxes may be filled with straw or some other substance that will absorb all the moisture. This upward ventilation should be closed, say the 15th of March, or after the extreme cold weather is over. Thus I have given you all that seems necessary, where they are wintered on their summer stands.

When they are wintered in special depositories, the preparation is the same, except that no straw or other substance is necessary; but the honey-board must be raised, say a quarter of an inch, or if in common hives, the holes in the top of the hive left open, the fly-hole the same as above, the temperature kept between twenty-five and forty-three by *thermometer*, the cellar or room *perfectly* dark, and when you enter it, do so with a lantern.

I will now proceed to give what I regard as the best form and method of constructing a special depository. Convenience to the apiary is essential; it is as well, and perhaps better if we can, to place it in the edge of a bank—as some root cellars are made—bluff, or side-hill. The door should be at the lowest side, for the convenience of entrance, as it is difficult to pass up and down stairs with a swarm of bees.

The size of the room will of course be sufficiently large to contain what bees we wish to place therein. Sixteen feet by twenty, inside measure, will hold one hundred and fifty swarms, and leave ample alley room. The place should be dry, there should be a double door, the room *perfectly dark*, ceiling joists and a floor should be laid over head, and eight or ten inches of sawdust, tan-bark, dry marsh muck, or some non-conductor placed on it before putting on the roof. Four pipes, chimneys or tubes, made of ten or twelve inch boards, should run from just below the ceiling through the roof, and be of sufficient length to exclude the light, say eight feet, on the lower end of which there will be a simple slide or valve. Place one in or near each corner of the room. Thus we have the means distributed for the ascent of the surplus heat, and the animal heat of one hundred swarms is quite considerable, and the great difficulty, if any, will be to keep our room cool enough. To jump at the conclusion that a room with thin walls will accomplish it, will not answer; the great difficulty is to have an even temperature. As, if our walls are thin, the rays of the sun and warm air will make the room too warm. In February, 1869, I was under the necessity of doubling the thickness of a ten inch wall on the south side.

We also place a pipe or tube quite around the inside of the room upon the floor or ground (a floor is quite unnecessary, worse than nothing, for it makes a hiding place for rats and mice), this tube may be made of foot boards, and inch holes bored in it, once in two feet, for the equal distribution of the cold and fresh air, when needed. One end of this pipe must pass through the wall, and must have a slide or valve at or near the outer end

If my room was at the bank or hill, the lower side or end will of necessity be destitute of earth banking, and we would make the wall at least sixteen inches, filled as above with some non-conducting substance, and dry marsh muck is equal, if not superior, to almost any other substance, except fine charcoal, and is easily procured.

A house built altogether upon a level surface, with the walls of *sufficient thickness*, say eighteen or twenty inches, will be equally good. The cost of such a house as I have described cannot be great. Most, if not all the labor, can be performed by the apiarian.

This house will be found very convenient for many other purposes in the spring and summer, in the various operations, to wit: in overhauling and examining the bees in the spring, as a window sash may then be placed in the top of one of the doors, and a stove placed within—thus I have one arranged.

When you suspect there may be a material change in the temperature of the room, look to the thermometer; if too cold, close the valves, if too warm open them more or less, as occasion may require; if that is not sufficient, open the door after dark, and close it again before light, and if that is not sufficient, throw in and spread over the floor a few bushels of snow or pounded ice.

Many swarms will be benefited by being set out on their summer stands at the time of the January thaw, or in February, those that are besmearing their hives, that they may discharge themselves, which will cure most cases of diarrhœa, or dysentery as it is called—though there are real cases of diarrhœa, but not often.

Thus we have passed over the most essential points in the wintering of bees. I will now proceed to give some, if not all of the necessary steps in their management in the spring.

It is difficult to give the exact date at which they should be removed to their summer stands, but whenever it is done, it is not at all important that each swarm should be placed on the identical stand it had the previous season, neither is this precaution necessary if set out in the winter.

In removing them from the cellar, it will first be necessary to close up the fly-hole and remove the chip or block from under the honey board—to confine the bees in the hive.

Immediately after placing them upon their summer stands, if housed in special depositories, and perhaps about the same time or a trifle earlier if wintered out, the bottom boards should be cleaned of dead bees and other filth, it saves the bees much labor and no doubt conduces to their health.

As soon as they have become accustomed to their new location, one of the most important operations in bee management becomes necessary, to wit, the thorough examination of the swarm, for five purposes: First, to ascertain if they have sufficient honey to carry them through; of this we may judge with sufficient accuracy from the appearance of the quantity. Be sure to leave them enough, as the breeding season is now considerably advanced. We must also regard the size of the swarm, which will, of course, include the quantity of brood now on hand. Secondly, to see if they have too much honey. This reason is almost equally important with the other; it could be hardly conceived by the novice how it was possible that a swarm of bees could have too much honey. Well, we would like to have you explain that, Mr. Lecturer, says one—I think many. Well, be patient, my friends, and we will make the attempt. First, then, we will suppose the breeding chamber of the hive is the proper size. This involves the question as to what is the proper size. Well, there are various opinions about it; but with some experience, aided by a few simple figures, we may approximate to it. We may assume that a vigorous and healthy queen can and will lay three thousand eggs a day; now, each square inch of comb will contain fifty eggs, and fifty will go into three thousand sixty times; it takes about twenty-one days for the eggs to hatch; now twenty-one times sixty is one thousand two hundred and sixty: this would be a solid mass of comb, larva and pupa; of a necessity, then, we must add to the above one thousand two hundred and sixty, half as much more room, six hundred and thirty inches, making the inside of the hive one thousand eight hundred and ninety cubic inches. It will be well to add say half an inch more to the depth of the hive, as the bees seldom build combs to within half an inch of the bottom board. Well, suppose the hive is fourteen inches each way (horizontal) we would thus add ninety-eight inches more; this would give one thousand nine hundred and eighty-eight, or for convenience, two thousand cubic inches; two thousand two hundred and eighteen and one-fifth cubic inches are a bushel, which is most commonly given as the proper size of the hive. Now, our figures have given nearly that size, and worked mathematically close, and giving a little leeway, our hive will hold about a bushel. Let us recollect this is the room required for breeding purposes. We added two hundred inches, and will suppose that will be filled with pollen and honey; now, if these premises be correct, we start in the spring with the size of our hive much reduced by being filled with honey, as we have but two hundred cubic inches for that purpose and the bee-bread. Can we now see that a swarm of bees may have too much honey in the breeding chamber? Still we must leave enough at this examination to carry them safe through till an abundant supply can be obtained from the blossoms. Suppose, therefore, we leave from thirty to fifty pounds of honey in the hive, is it not evident we have trenched that amount of space upon the breeding territory? Then, if the season is a good one for honey, this room is constantly being diminished by the bees depositing honey in the cells as soon as the brood leaves, the result of which will be your young swarms will be too small, and by winter the old ones, for the want of breeding room, are too few to raise sufficient animal heat to winter. Even if the proper amount only is left in the hive in the spring, and the season is a good one for honey, the hives should be examined, say the first day of August, and the outside sheets that are filled with honey and have no brood in them, be removed, and empty sheets or frames placed in the centre of the hive that the queen may have more room.

Thirdly. We examine the hive to see if there is too much drone comb (and any is too much in a large apiary) for if you remove all, the bees will find means to raise drones enough, as in a hive with the ordinary quantity there are probably enough for an apiary of fifty or seventy-five swarms.

Fourthly. We examine the hive to determine if the queen is living, and if so, if she may not be a drone layer. The question will be asked by some how we determine if she is living, or is a drone layer. If there is no queen there will be no brood, and *vice versa*, and if the brood be *all* drone, there would be no doubt of her being a drone layer. In either case, the swarm should be doubled up with a swarm that has a normal queen; the drone layer should first be killed.

Fifthly. In performing these examinations it is an excellent plan to transfer each swarm to a clean hive, as the rabbets have often become partially filled with propolis or gum, as are also the ends of the frames covered with it, and sometimes the hive may want repairs.

We have seen that this examination is one of paramount necessity. The better place to operate is perhaps in a room or place with a single window, or a half window is better, and the room should be so warm that the bees will not chill upon the window. It should be so arranged that the bees that gather thereon may be frequently liberated; the weather should be sufficiently mild for them to fly from the place to the hive. A decoy hive should be set upon the stand, with a few pieces of comb in it; the decoy hive should be of the same color as the one being operated upon. An active person can examine twenty hives in a day with an assistant. This examination may be performed out of door at the stands, were it not for the fact that it is a season of the year when the robbers are most persistent. In performing these operations, it will be found advantageous to blow in a little smoke at the time of opening the hive.

We now have our bees in clean hives with plenty of honey—not too much—and without too much drone comb. But perhaps a few queens may have died a natural death during the winter, or there may be some drone layers. In either case, the bees should be put with another swarm. This may done in various ways; the safest, perhaps, for the uninitiated, would be to drive the swarm from the hive without a queen into the other, by first blowing in a little smoke, also sprinkle in a trifle of scented syrup, and then drumming; and after they are driven the swarm had better be removed to a perfectly dark room or cellar say for a week, or remove them to a distance of at least a mile for a week. This removing should be done instanter. An additional precaution would be to place the one hive above the other preparatory to driving, with a wire cloth between them, say for forty-eight hours, that each may have the same scent.

It is often the case that many swarms are small in the spring; then comes the question, what is it best to do with them? I am of the opinion that the better plan is to feed them, to stimulate the queen to breeding. Commencing the 15th of March, give the swarm from three to four tablespoonfuls of honey every day, or every other day, except the days they gather from flowers, will answer; but they must be watched closely to see if they have plenty of honey in the combs for their brood, and they consume much more than we would suspect; as, for illustration, suppose a hive to be filled with larva capped over, can any person tell me how that amount or mass of animal matter can be brought into that form without an equivalent in weight of liquid sweet (honey or sugar syrup) and pollen, for which we substitute in our stimulating process in the spring unbolted rye flour, placed where it will be protected from wind and water. They may be easily enticed to it by placing a little honey in the vessel.

Another method of procedure is to double up the weak ones. Another still is to equalize them by taking a sheet of brood that is hatching from a large swarm and giving it to the small one.

One of these methods is very important, as after all the apparent secret of bee management the greatest secret lies in keeping the swarms strong.

The bees in small swarms are all compelled to stay at home to keep up sufficient animal heat to keep the brood warm, perhaps scarcely gathering honey enough to stimulate the queen to lay; and if she did lay up to her full capacity, there are not bees enough to keep the brood warm.

Another advantage in having strong swarms is to avoid the miller or wax moth.

I lay down the proposition that the moth *never materially injured a good swarm* in a decently made hive.

In this connection, I lay down another proposition, that without some explanation may seem as strange as the one above alluded to, (that a swarm of bees may have too much honey.) I think I may assert that the moth is or may be an advantage. We always act from one or more motives moving us to a particular point. Amongst other things, I stated that the moth never *materially* injured a *good* swarm of bees. Now, one of the requisites of a good one is strength. Let us see if the moth may not be an advantage. Most bee-keepers have had in their yard say at least two swarms of that size that all they could do would be to get themselves into good condition as to numbers and stores for the coming winter, without giving the owner a young swarm or an ounce of surplus honey, and at the same time they were very much exposed to the moth and stood a good chance to be destroyed by them, because there are not bees enough to guard the unprotected combs.

Now, we will put these two swarms together, and see what the result will be; we will have a swarm strong enough to guard against the moth, strong enough to keep a large quantity of brood warm, by which it will be strong enough to throw off a swarm in good season, and if it is a fair season for honey we may expect twenty-five pounds of surplus honey from the mother swarm. And what have we lost? a queen. The comb we will preserve in a cool, dry place, and give them to the young swarm. Has the moth in this view been a benefit?

We have now our hives properly examined, those that need it fed, the honey taken away if too much, the queenless doubled up, the weak stimulated, equalized or doubled up. There are now but few things to be done, the hive should be made as tight as possible with no upward ventilation, the fly-hole opened but a trifle, and as the swarm increases, which we can determine by the steam, or rather dampness, on the bottom board at the fly-hole in the morning, we will enlarge the fly-hole.

We will next place a trough in the centre of the yard and keep water in it, and to prevent the drowning of the bees will cover its surface with corn-cobs, and occasionally exchange them for fresh ones as they become sour in time.

Now we feel pretty sure thus far we have warded off that scare crow, "luck."

I think of but one other duty we can perform for our and their benefit, that is within the task assigned me, to wit, that of placing the surplus honey boxes on the hive. Mr. Quinby, I think is the only writer that tells us the proper time, namely, when the hive is full of brood and honey below. As they only go into the boxes for the want of room below, and not always then, they should not be put on much sooner, as it enlarges the space to be kept warm by the animal heat, *all of which is needed up to that time.*

[For the American Bee Journal.]

Wintering Bees.

Mr. Editor:—I believe the inventors of all hives claim—each for his special invention—better wintering qualities "than any other hive in use." But many of them, after being tested, prove to be no better than any old common hive, from the fact that they are not constructed on the right principle. When I constructed the hive described in the Journal for July, it was my intention to make it one of the best for wintering bees that had ever been devised; and I have yet to find the man who has seen and examined it, who says it is not upon the right principle for that purpose. If we can have a hive constructed on the right principle for successful wintering of bees, storing honey, and allowing of as much room for surplus honey-boxes as the largest stock needs, it is certainly an improvement over anything yet constructed in the shape of a bee-hive. I claim that my hive combines more good qualities and fewer *bad* ones, than any hive now extant.

When I commenced to write, I did not intend to say anything in favor of this hive. Those who have used it will say enough in its favor. I will now give my plan for wintering bees in it, which I can do in very few words; and it will not take longer to prepare one of them for wintering, than it will to read this article.

First, make the winter passages through the combs. This I do by taking a stick twenty inches long and three-fourths of an inch wide, made sharp at one end, and slowly worm it through the combs, from front to rear of the hive. If a hive be examined, twenty-four hours after this has been done, the bores will be found as round and as smooth as though the bees had made them. Next remove the board from the top of the brood chamber, and cover the frames with any old rug, coat, or woolen cloth of any kind; and, although it is not necessary, it will be found a good plan to remove the sides of the brood chamber, and cover them the same as the top; or they can be covered with cotton cloth, leaving the surplus box holes open as a means of ventilation, and at the same time keeping the bees confined to the combs and from going into the outer hive. I did not remove the woolen cloths from the tops of my hives this season, and the only ventilation my hives have had during the *very* hot weather was through the entrance. There was no melting down of combs as in the shallow form of the Langstroth hive.

The entrance should be closed during the winter, so as to leave only about one inch space between the blocks. A stock of bees will not smother in this hive, even if it be covered up in snow all winter; but the ventilating holes in the cap must be left open during the winter. In most of the hives sent out, I left a hole in front of the brood chambers to make the winter passages through.

In the spring the brood chamber can be lifted off the bottom boards and cleaned of bees and droppings; and I have done this without even disturbing the bees.

Three years ago I gave a plan for wintering bees in the shallow form of Langstroth hive. Many who tested that plan, have written to me that it worked well. I think the plan a good one, and hope some one who has a copy of it will send it to the editor of the Journal to have it republished. I will guarantee that all who try it will be pleased with the plan.

H. ALLEY.

Wenham, Mass., August, 1870.

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[For the American Bee Journal.]

Italian Queens.

I wish to thank the Rev. E. L Briggs for his excellent article upon the permanency and purity of Italian bees, published in the August number of the Bee Journal, although I cannot concur in all his conclusions, nor accept some portions of his theory; but it is on a subject that will soon be of absorbing interest to every bee-keeper.

To the central idea of his article, that our aim should be *perfection*, undoubtedly all will cordially assent, while few will adopt it practically, for obvious reasons. Bee-keepers, as a class, have neither time, taste, nor inclination to attain the highest results in this direction; though they will seek to improve their stock, provided it can be done cheaply and without much trouble. It is well known that a *cross*—all things being equal—invariably improves stock. It therefore follows that the introduction of impure Italians even, will have a beneficial effect and thus help the matter, if for no other reason than simply crossing and mixing the blood.

Mr. Briggs will admit that comparatively few persons will pay $8.00 or more for tested queens to breed from or to Italianize their stocks with. And until such queens of undoubted purity can be afforded at a much lower price than that, the great mass of bee-keepers will continue to regard well marked Italian queens at $2.50 each, as a great blessing, inasmuch as they vastly improve the general status of the bee, even if not quite reaching the point of perfection.

Mr. Alley, to whom Mr. Briggs refers, has furnished me with queens perfectly satisfactory, being as finely marked as any I ever saw, and their workers and daughters are "chips of the old block." Certainly the introduction of such blood will not cause deterioration in all or any of those qualities that a progressive bee-keeper delights in. It is pleasant to have bees gentle and harmless; but when that quality is obtained at the expense of activity in breeding or working, it becomes an unprofitable luxury.

The question that is so often asked—"Are pure Italians superior to hybrids, as workers and breeders?" must be satisfactorily settled by breeders of pure Italians, before bee-keepers generally will accept fully the conclusions of Mr. Briggs.

My own experience has satisfied me that hybrids are far superior to the pure Italians, in every quality save that of gentleness. Possibly my queens may not have been absolutely pure, yet they conform to the best marks as described by Quinby and others. Those of my stocks that are unquestionably hybrid have given the best satisfaction in every respect. Others assure me of similar experience. Will some one explain this fact?

In view of it all, I can but regard a general crossing of Italians and blacks, as of immense advantage to bees and bee-keepers, and I hope and trust that friend Alley will continue to distribute, far and near, by scores and hundreds, those large, prolific and beautiful queens at $2.50 each. GEO. C. SILSBY.

Winterport, Me., Aug. 4, 1870.

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[For the American Bee Journal.]

Queen-Breeding.

MR. EDITOR:—Criticisms *based* on substantial facts, courteously worded, made in a spirit of kindness and a desire to benefit the world, are opportune and of great value. But when made merely for the purpose of "showing off," or of filling up space in an article, thereby damaging the reputation of any person without just cause, based on no facts, and unsupported by even a shadow of proof, they tend to mislead, and are an injury to the author, the person criticised, and the public generally.

On page 38 of the August No. of the Journal in an article written by Mr. E. L. Briggs, is a direct attack on one of your correspondents, who for years has been engaged in the queen-breeding business, and who, by devoting his whole time thereto, is enabled to supply his customers at very low prices. And the only cause given for this attack is that he supplies the bee fraternity at $2.50 for a warranted queen, and has four hundred orders at that price.

Now if Mr. Alley can afford to rear queens and sell them at $2.50, and his customers do not find fault, whose business is it? And is it just the thing for any one to assume that his queens are not pure, without showing the proof thereof? I think not.

As to Mr. Alley and his reputation as a man and a dealer in queens, I will say, in order that the many readers of your Journal who do not know him, may get at the facts, that I have for a long time been personally acquainted with him, and have always found him just and honorable in his dealings. I also know that he takes great pains to obtain the best stock to breed from, by purchasing imported queens, and continually procuring from reputable dealers, such queens as are of known purity, in order to avoid too close breeding. These facts, in connection with the fact that he is in a locality where all the bees, for miles around his apiary, have been Italianized by him, show whether the assumed idea in Mr. Briggs' article has a shadow of foundation. Now, shall any one of the queen-raising brotherhood assume that a man is a sharper who sells queens for $2.50, without proving that the purchasers thereof have been swindled? For one, I answer no! And if I can buy pure queens of Mr. Alley for $2.50, I shall not send to Mr. Briggs, and pay him from $8 to $10, even for his four or more banded mothers.

I have written this article in justice to Mr. Alley, and could if necessary bring any amount of proof to substantiate it; but thinking this enough, I remain always for the right.

J. E. Pond, Jr.

Foxborough, Mass., Aug. 8, 1870.

[For the American Bee Journal.]

About Italian Queens, &c.

Mr. E. L. Briggs seems to pitch into cheap queen raisers, and Alley in particular (at least so Alley understands it,) although he mentions no names). I cannot let such remarks pass unnoticed. I would have Mr. Briggs understand that I spare no pains to procure the best breeding queens imported into this country. I have paid from $5 to $20 and upwards for Italian queens, and have never as yet found among my purchases when received any queens superior to those of my own raising. My only object in purchasing queens, is to avoid in-and-in breeding. I am very careful to select the largest, handsomest, and most prolific queens to breed from, both for young queens and drones. I do not doubt that I ship queens now and then that are not up to the standard, and so do all other breeders who do not test their queens before sending. But in every case, I will send other queens, or give satisfaction in some way. The stock I now have produce as large, prolific, and handsome queens as Mr. B. or any other man ever saw. Any queen that I send out is worth all I charge for her, even if she has perchance mated with a black drone. I pay the highest figure for my breeding queens, and now have queens of my own raising that I would not sell for fifty dollars. If Mr. B. would like to purchase some Italian queens, and thinks they would be any better by paying eight or ten dollars for them, instead of two dollars and a half, I can accommodate him in that line; and if he has any such queens as he describes, I will take the lot at the price he has stated, viz.: eight or ten dollars. Now here is a chance for a trade! I know that some bee-keepers think that my queens are not worth much, because I sell them so low: but if it will do them any good to know how it is that I can afford to sell at such low prices, I will make it known.

I have all I can do in the summer to raise queens and reply to all the letters I receive; and I find it quite business enough to keep two hundred (200) nucleus hives in full operation. Talk about boasting of orders for four hundred queens! Why I have orders for more than seven hundred on my books, and they are still coming in by every mail. I was expecting to raise and ship one thousand queens this season, but cannot do it. My orders began to come in as early as last December, and one man ordered fifty as early as last March. Nearly all the orders I have received this season came from persons I supplied last season, and their friends who have seen my stock in the apiaries of former purchasers. I have plenty of letters speaking in the highest terms of my queens; and many of them, like Dr. Barnard, say they are much better than those they paid twenty dollars for. Let me say here that I sent Dr. B. his queens last fall, and the first I heard from him since, I saw in the American Bee Journal—it was of course no pre-arranged plan for him to blow Mr. Alley's stock of Italians.

I paid a certain party in June last ten dollars for a queen. A few days ago I received her, and I may safely say I never shipped a queen as poor in appearance. Nor was there any excuse for the party sending me such a qeeen, as she was raised last season and was taken from a full stock when sent to me. I guarantee to send out just as good queens for two dollars and a half.

I do not want the reader to suppose that this article is intended as an advertisement. That is far from my design; but I feel obliged to make this statement in self defence.

Last winter I read an advertisement in a western paper, from the pen of a high-price queen dealer, in which he said that he did not believe that good queens could be raised and sold for $2.50 Now, the same person has advertised them at a figure even lower than that. I can afford to raise and sell good pure queens for the price I am charging, and mean to do so as long as I can find purchasers for them, which judging from the demand for them, will be some time yet.

I have, within a few weeks, bought seven queens from some of these high-priced queen breeders, none of which are any larger or handsomer than the stock I now have; nor do I believe that their progeny will prove to be any better. Only this morning I received three queens from such a breeder, two of which I returned by the next mail. I do not want any stock of that kind.

I do not know who Mr. Briggs is, nor whether he is "blowing" for himself or not; and I do not understand his object in sending such an article to the Journal as appeared last month over his name. If he intends to build up a trade at the expense of other people by underrating their stock, I, for one, would like to know it.

I have plenty of letters from purchasers, "blowing up" some of these high-price queen breeders; and I presume they have some of the same kind, giving Alley what he deserves and perhaps more than is due to him. But let that be as it may, all I have to say is this—if any man has a queen purchased from Alley, that he does not like, let him return her at once, or ever after hold his peace.

Mr. Langstroth has written to me several times that they never yet imported a queen that would invariably duplicate herself. Who is the best authority on this point—Mr. L. or Mr. B.? I have this information not only from Mr. L., but from other importers also. I know nothing about Morgan mares nor of certain breeds of pigs; but I have several years' experience with Italian bees, and profess to know something about them. Those who breed Italian queens, and charge high prices for them too, will acknowledge that not more than one queen in fifty is as good as those which Mr. B. has pictured in the last number of the Journal; and he may bet a high figure that no worker bee in the country ever showed four bands. This article has grown pretty long, and I do wish Mr. B. would stir one up when the weather is cooler, and we have more leisure for rejoinder—say next winter.

H. ALLEY.

Wenham, Mass. Aug. 8, 1870.

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[For the American Bee Journal]

Bees in Central New Hampshire.

The limited number of bee-keepers that are found in this section of the country is sufficient evidence that the securing of honey is not here regarded as the royal road to wealth. Many a farmer may have some four or five hives, which are but a small taxation upon his time. From them he is furnished with a luxury which if not secured in this manner, probably no money would purchase.

Last year, (1869,) we secured five hundred pounds in boxes—beginning in the spring with twelve cōlonies. The harvest began on the 14th or 15th of June, and closed the 16th of July. The season was considered by bee-keepers generally in this section of the country, as being a very poor one. But few hives yielded any surplus honey, save those that received extra attention.

On the 12th of November we placed fifteen colonies in the cellar, where they remained till the 9th of April, 1870. In our opinion, proper ventilation is the necessary lesson to learn in order to secure success; and every man should be fully persuaded in his own mind what course is best for him to pursue. We have had some experience with corn-cobs, paper coverings, wire screens, straw mats, and old carpets. With us, the last of these articles proves to be the most satisfactory.

Thirteen colonies passed the five months incarceration and came out fresh and fair. The remaining two nearly failed us, as we attempted to have them live without much change of air. Those hives from which we removed the honey-boards and covered the frames with two thicknesses of good woolen carpets, all came out in the spring beautifully neat and clean. We shall anticipate the same favorable results for the coming winter.

As the surplus honey harvest for 1870 has already passed, we can begin to count our actual gains. Comb-building began about the first of June, and ceased the first week in July. Since that date very little honey has been deposited in the boxes, even when the bees were furnished with nice frames of comb. The white clover blossomed very profusely, and ripened rapidly, and the bees were thus soon deprived of their largest and best harvest field.

Thus far we have secured somewhat over four hundred pounds of No. 1 honey, and shall probably realize enough more to make *five hundred* pounds, when all the boxes are removed and the hives taken up that are not wanted for winter. Thus far we have not succeeded so well as we have wished in combining colonies. We would not destroy any with brimstone, because that is so very unkind; but when we add colony to colony many bees will kill each other. Tobacco smoke and fragrant waters have at times failed to produce harmony of feeling. Perhaps it would be better to sell the colonies we do not wish to keep.

We have, however, reason to be thankful for the sweet blessing we have already received, and are also thankful that our friends, west and south, are having such bountiful returns.

Dear Editor, we have just returned from a visit to the school. The scholars were engaged in reading their themes, it being Saturday afternoon. Among the many subjects, one little girl had selected the Honey Bee. It interested us so much that we have taken the liberty to send you a copy, that you may see what one of our little Shaker girls, nine years of age, has written

ABOUT BEES.

"I love bees, because they make honey; but I do not love them sometimes, because they sting me, and that I do not like, though I like their honey. I have felt a sting from a honey bee, and I never want to have one again, for I know how it feels. It smarts well, indeed it does. A bee is like a little girl, because it does good when it wants to, and when it does not it will sting you. Now, scholars, I will just tell you not to 'flict a bee, if you don't want it to sting you. It is like a girl, for if you 'flict her, she will be unkind to you, and you must not 'flict her. This is all I have to write about the bee."—C.

The Journal as a welcome visitor arrives while we are engaged writing this communication; and the pages tell of great and precious treasures. As time passes on we hope to be able to write of more bountiful harvests. We have in anticipation the simon pure Italian Bee, to take the place of our blacks and hybrids; and extended fields of Alsike clover, instead of the antiquated red. In that day of bounty and beauty, we shall hope to write temptingly to our worthy editor.

Respectfully,

H. C. BLINN.

Shaker Village, N. H., Aug. 1870.

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[For the American Bee Journal.]

Natural, Prolific, Hardy Queens.

PART 2.

(*Continued from July Number, page* 11.)

In early spring, or at any time desirable, proceed to stimulate a selected colony with liquid feed. "Warm syrup or strained honey, is the best for the purpose;" placing alternately empty combs or combs full of brood, from other hives, until your hive is full; or by the removal of one or more colonies, on each side of the selected one, the worker bees from one or more hives, can be thrown into the selected hive, and so stimulate the swarming fever or impulse. Proceed now as recommended in the July number, page 11, when the bees will commence building queen cells. The bee-keeper will thus secure from ten to sixty queen cells per week. During my experiments, each weekly robbing only stimulated the bees to greater exertions to secure a queen. Proceed thus until the desired number of queen cells are secured, or the bees swarm. If they should swarm before a sufficient number of queen cells are secured, and it is desirable to still breed from the same queen, secure her and introduce her to a colony that has not swarmed, and proceed as before. Or, better still, introduce her to a colony making preparations to swarm. Before introducing her, destroy all queen cells that have eggs or larva in them; then cell building will proceed as before. A swarm under the swarming impulse will communicate it to a strange queen introduced to them; or a queen under the swarming impulse, "and not satisfied," will communicate it to any populous colony to which she may be introduced.

John M. Price.

Buffalo Grove, Iowa.

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[For the American Bee Journal.]

Natural and prolific hardy Queens.

We are all more or less disposed to regard our own ideas as indisputable.

Mr. Quinby for example, praises his new hive, and his queen yard. I have experimented with both, and both are now in my barn, waiting to be split up for kindling wood.

Mr. John M. Price, in the July number of the Bee Journal, condemns all artificially raised queens. But *rassurez vous*, friend queen-breeders, I come to prove to friend Price, that he has misconceived the reason of his bad luck in raising artificial queens.

When I commenced to introduce Italian bees in my apiary, six years ago, I received from one of our best queen-breeders a very nice looking queen. She was very yellow from the waist to the tip of the abdomen. Well, I raised a number of queens to get drones, and next season I raised some more, from the same queen, to replace the misallied queens. But lo, one-fourth of my young queens were either crippled, or drone laying, or laying non-hatching eggs. Yet these queens were as yellow as their mother, and it seemed as if the brighter they looked, the poorer they were.

Then my first imported queens came. They were not yellow, but dark. The first rings of the abdomen were leather-colored, the last were entirely black or nearly so. I wrote to Dr. Blumhof, reproaching him for having sent me so dark queens. He replied that all the healthier queens in Italy are dark, and that it was well ascertained there, that the light-colored queens were not so good as the dark. The light-colored queens, added the Doctor, seem to have the chlorosis. Prof. Mona told the same thing to Mr. A. Grimm, when he was in Italy. See *American Bee Journal*, vol. III. From this we can guess that the selecting of the brightest yellow queens for breeders, is one of the causes of the failure of the queens raised. But in-and-in breeding is another, and according to my experience, a main cause of weakness.

As soon as my first imported queens were on hand, I commenced raising queens from them, and from that time forward I raised artificial queens every year from newly imported queens. Those queens mate with drones from queens of the preceding year's importation, and so on. I do not care for the color of these queens, but not one of them is crippled or proves to be a poor layer.

My five best stocks this year, all have artificial queens. Three of these queens are with swarms of last year. I hived them in one of friend Price's hives. These swarms are better than the three original stocks they came from, though these latter have raised natural queens in the height of the swarming season, as friend Price prefers they should. The five stocks referred to gave me from seventy to one hundred pounds each, of box honey. I suppose I should be thought very *exigeant* if I were not content with such results, in so dry a season as this.

Why does friend Price imagine that artificially raised queens are not so good as natural ones? Probably, because the bees, in order to obtain queens sooner, chose grubs already several days old, instead of selecting newly laid eggs, from which to raise queens. I have watched that very closely, and could see no appreciable difference. A stock rendered queenless will raise queens maturing at different periods, some hatching in from nine to twelve or fourteen days, and sometimes not till sixteen days after. If the above theory were correct, the earlier hatching queens should be the poorer, for they come from grubs three or four days old. Yet such is not the case—those queens are as good as any.

If that theory proved to be true, it would still be an easy matter to prevent the evil results apprehended. We could destroy the two or three first-capped queen cells; or force the bees to raise queens from the egg, by a method far more easy than friend Price's. Insert in your chosen stock a frame, containing empty worker comb, placing it between two frames containing brood. In three days, if the bees find honey in the fields, the cells of the worker comb will be supplied with eggs. Then remove the queen and all the brood combs, except the one containing the eggs. The bees will thus have eggs only from which to raise queens, and *all* your young queens will necessarily be started *ab ovo*. I guess this method is as good as, and more simple than, that of friend Price.

I am not a queen-breeder. That business does not suit me, for it is a source of too much vexation. I have repeatedly imported queens, but I lost money and suffered so much in that business, that I think my sufferings will pay for all my sins in the other world. I am thus altogether disinterested in this matter of breeding queens.

On this topic, my advice to apiarians is—

1st. Do not look for yellow queens, for they are not as good as dark ones.

2d. Take care to avoid too close in-and-in breeding.

Let us also remark, that many bee-keepers find that the half-blood Italian bees, are better than the pure ones. Why? Simply because the in-and-in breeding the race of their queens was subject to for some generations, was broken by the alliance with black drones. But the alliance of the Italian queens with Italian drones remotely bred, would doubtless give as good progeny, while preserving the purity of the stock.

Let us remark also, that Nature in ordering for the queens the wedding flight, obviously had in view the avoidance of in-and-in breeding.

3d. Choose the colony having the purest queen, and the most fertile, from which to provide the queens cells, and distribute in small nuclei when sealed No matter if the queen is dark. In good seasons the queens raised in small nuclei are as good as those raised in full stocks. CH. DADANT.

Hamilton, Ills., July 24, 1870.

[For the American Bee Journal.]

Artificial Queens.

In the July No. of the Journal, Mr. John M. Price contributed an article on " Natural, Hardy and Prolific Queens," which was no doubt his conviction of the truth of the matter at the time ; but as it does not agree with my experience, I will give the other side of the question.

If I understand his theory, it is that queens reared in stocks deprived of their queen when not under the "swarming impulse," are smaller, less prolific and shorter lived than what are termed *natural queens.* I am fully aware that Mr. Price does not stand alone on said theory, and yet I believe it to be an error.

For the sake of distinguishing, we will state that queens bred in full stocks from which the mother queen led forth a swarm, or queens which were *started* while the old queen remained in the hive, are *natural* queens, and all others *artificial.* I have both kinds in my apiary, and have had for several years, and can see no difference in their size, beauty, fertility or longevity. I have repeatedly kept artificial queens until they were three years old, and had one very prolific queen which died in March last, being then three years and nine months old. I left her as an experiment, to see what age she would attain ; but my practice is to remove queens in their second or third year. Of course a few die before they are two years old, for they are not exempt from the ills that bee "flesh is heir to." But that four or five in succession should pass off the stage of action in a single stock in one season, is something before unheard of. I do not know what effect brother P.'s revolvable, reversible, double-cased hive *might* have upon the tender life of a young queen ; but it seems to have been most disastrous, for we have no such work here in the old Keystone State.

It is a matter of very great importance in the success of an apiary, that our stocks are supplied with the *right kind* of queens, and in order to effect this desirable result, something more is necessary to a full understanding of the subject, than simply to know that bees, when deprived of their queen, will attempt to supply her place. I find little difficulty in rearing *fine* queens, with the following conditions : 1st. a suitable queen mother ; 2d. fair weather and good pasturage ; 3d a full stock, in which honey and pollen are abundant (not a nucleus where starvation stares them in the face). It is a settled point with me, that the production of queens is a matter wholly under the control of the worker bees ; and we lack evidence that a queen *ever* lays an egg in a royal cell. If the bee is guided by instinct *alone*, and the production of a queen depended on the depositing of a *peculiar* egg by the queen in a royal cell (an egg, differing from the worker or drone eggs), it would follow that, on the loss or removal of the queen when no such eggs existed in the hive, no young queens could be produced.

Small queens may be produced in nuclei where the requisite food is limited, and where from want of bees the larva is exposed to repeated changes of temperature, which is detrimental. When reared in full stocks in times of great scarcity, nearly the same results follow.

There is another important point, namely the *proper age* for the mother bee. In breeding all our domestic animals, regard is always had (and wisely we think) to the age of the parents. It may be thought that the life of the bee is so short that it would allow but little latitude in this direction ; but it should not be forgotten that the queen usually lives three and sometimes four years, during which time there is doubtless a period of fertility and hardiness, or power of endurance, not common to the whole of her life. Just what that period is, I am not prepared to say ; but the rapid advancement of apiarian science will doubtless solve the problem. I am satisfied, however, that queens bred from *young* queens are not equal, in several desirable points, to those bred from mothers a year old. In experimenting with black bees, I became satisfied on this point several years ago. I have never known a *young* black queen, after becoming fertile, to lead out a swarm, no matter how populous the stock might be ; and indeed apiarians have considered it the best method of preventing swarming, in order to secure surplus honey, to remove the old queen and install one of the current year. (It is ahead of Quinby's queen yard). We reason from this, that their instinct teaches them that they are *unfit* for queen mothers. This would not, perhaps, hold good in the high temperature of southern latitudes, which tends to the earlier maturity of all animal life. With the Italian bees it is somewhat different, for young queens produce drone eggs, and they do sometimes lead out swarms, yet they are not so liable to do so as older queens.

Mr. Aaron Benedict tells us he produced six generations of queens in a single season, but does not give us the result, further than that he thought he improved his bees in color.

I am not surprised that the men who raise queens from March to October, have cheap queens and sell them by the hundred. But I am one to say that no genuine lover of our pets who duly considers consequences, would proceed thus. And now, Mr. Editor, I wish to say in conclusion, that of my 125 queens about one-fourth are *natural* and the balance artificial queens, and if Mr. Price, or "any other man" will, upon examination, decide correctly, by size or fertility (amount of brood), which are of the former and which of the latter class, he may pick out ten as large and yellow queens as he *ever saw*, and I will make him a present of the same, and will warrant that, if artificial, they shall be as productive as he wishes them.

NB.—I have no cheap queens for sale.

WILLARD J. DAVIS.

Youngsville, Pa., Aug. 8, 1870.

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[For the American Bee Journal.]

Novice.

DEAR BEE JOURNAL:—That flood of honey that was driving us so, when we last wrote you, has ceased, and we are having a resting spell.

About the 18th of July the basswood failed, and we were obliged to desist, mostly on account of the neighbors' black bees desperately attempting to rob our hives when we opened them. In fact, the upper stories of our Langstroth hives are all full now, but before we can empty two hives the black bees are so thick as to threaten demoralization to our whole apiary. Though the Italians will sometimes sting a pint of them to death around a single hive, not an Italian can be found among the slain.

In spite of all this, to which we have repeatedly called the attention of others, many are busy in accusing the Italians of driving the innocent common bees out of the land. One neighbor in particular, who cannot afford to take the Bee Journal, has been very busy in telling how our Italians have taken all his surplus honey, and had he not used *great* care, they would have carried off all his honey, hives, bees and all.

It was in this way. He came to us one day, quite excited, saying that our Italians were robbing his bees at a great rate—even some new swarms in movable frame hives that we had let him have, (not to mention several hours' verbal instruction and the attempt to answer all questions pertaining to bee-culture at once).

"But that is impossible," said we.

"Can't you believe me when I tell you so?" inquired he, angrily.

"We will go with you and see."

On the way the conversation was resumed, thus:

"You are sure you left no hives open, nor anything sweet around?"

"Nothing of the kind."

"When did the robbing commence?"

"In the morning."

"Have you taken off your surplus honey yet?"

"Took it off this morning,"

"Where is it," stopping in our walk.

"*In the orchard, on a table.*"

"Covered up?"

"No, I left it open to let the bees go out. The boxes were full of them, and I could not get them out."

"Are they there now?"

"Yes."

"Now, C———, why in th——— did you not do as we were very careful to tell you, and put the honey in a large box with a white cloth spread over it, to be turned over every hour or two?"

"Well, it was too much trouble, and I did not suppose it would make much difference."

Of course we found boxes that had held about forty pounds, empty, and oh, such music! There *were* Italians there too, but we estimated nine-tenths black bees to one-tenth yellow-banded ones. Without giving the particulars, we may say that we have since heard that our bees had robbed him of sixty, and then eighty pounds, and we don't know what it will amount to in the end.

The whole quantity of honey taken out by us this season, is now six thousand one hundred and sixty-two (6,162) pounds. Of this we sold over two thousand (2,000) pounds, in June and July, for thirty cents per pound, jars and all. The jars do not cost us as much, in the end, a boxes.

How does that figure, in comparison with box honey?

Besides this, our forty-six (46) colonies have been increased to sixty-four (64); and as the upper frames are all full, and we have more bees than the hives will hold, we propose to raise queens this fall and make swarms of the upper stories, perhaps eighteen (18) more.

How many of our co-workers in the melextractor field have had trouble with heavy new combs breaking down in hot weather? Well, listen to our plan of putting them back. Throw away your splints, wires, strings, &c., and simply lay all the pieces of comb, full of honey or not, on a board the size of your frame; put the frame over it in place, and then set the whole in the upper part of some hive over night where the bees have access. In the morning turn the whole up in proper position, and slide your board away, and as soon as the bees have repaired that side too, it is ready for the melextractor.

Mr. Price says Novice's feeder will not answer for thin syrup. We are afraid he has not tried one. Use new strong cloth, and there is no trouble at all in feeding maple sap or even pure water.

Why is it that we can never have any success in trying to build up a stock by feeding? For instance—We commenced putting the cappings, after being drained, strainer utensils, &c., in the top of a hive to be "licked off." As the hive was handy, we kept them busy, and one other, most of the time. Do you suppose it built them up? Not at all! While other stocks were bringing home from six to eight pounds a day, and building comb rapidly, these two could not "lick up" half that; and, further, would build no comb at all until we stopped their "rations" and saved our "trash" until the honey season was over.

NOVICE.

August 9, 1870.

* * *

Colonies that are overstocked with honey in August, should have some of it removed, either by the honey extractor or by sliding off the caps and laying the combs on a dish, to allow the honey to drain out of the cells of the sides alternately. When thus partially emptied, the comb should be returned to the hive.

[For the American Bee Journal.]

Bee-culture—East and West.

Mr. Editor:—I think the time has fully come when your correspondent "Novice"—that notable personage of whom we have so often read, and whose plans and acts have so often fired our brain with new resolutions and determinations to at least *try* to "go and do likewise"—should, hereafter and evermore, drop that simple title, and sign himself Adept, Expert, or some other name a little more suggestive of the manner in which he seems to "swing things" of late.

Five thousand (5,000) pounds of clover honey, in about one month, from forty-six (46) colonies of bees! That will do! Let's all go west. No use in trying to raise honey here any longer ![*]

Why, Mr. Editor, in our locality this is simply impossible. That amount of honey is not to be had within the flight of our bees. Still, we seem to have flowers enough. Is the country overstocked? There are probably not more than 150 swarms, our own included, within a circle of one mile from our place. All of our pastures seem covered with white clover in its season; and it lasted, in many places, this season, until buckwheat came into bloom. The old raspberry is said to be an excellent honey producing plant, and its cultivation for bee pasturage is often recommended There are hundreds of acres of it, within the flight of our bees, already covered with this plant. Basswood grows wild here, to some extent; and probably there are one hundred trees near enough to be visited by our bees. Buckwheat is also grown considerably—say fifty acres, this season, within easy reach. Aside from this, there are many scattering flowers in bloom at different times, from which honey can be extracted. And yet, of late, it is not one year in five that surplus honey is obtained from any other source than buckwheat.

I have this season increased our number of colonies from thirteen to twenty-nine, wholly by artificial swarming; but shall expect no surplus of any consequence.

While walking through a pasture field one day this season, where bees seemed to be working freely upon white clover, I undertook the job of watching a bee, in order to ascertain how many clover heads were visited by her while collecting one load of honey. Selecting a bee that looked quite empty and had no pollen on her legs, I commenced the count. How long she had already been there, I, of course, did not know, but I kept my eye upon her until she left the *five hundred and eighty-second* clover head. Then she flew over some weeds, and I lost sight of her. Whether she then left for home, or not, I do not know. The time occupied by her in making this number of visits, was just one hour. Now, I do not think that this shows a very bountiful yield of honey, even though plenty of flowers exist. This bee visited the same clover head several times, while I was watching her.

If it was not for our fall pasturage of buckwheat, as slim as it is, bee-keeping would, in this section, be "played out," as more honey is usually obtained from this, than from *all other sources combined.* It may be different in the western and southern parts of the State; but, so far as I am acquainted, I certainly think Pennsylvania is not the best place in the world for producing honey.

I. F. Tillinghast.

Factoryville, Pa. Aug. 10, 1870.

[For the American Bee Journal.]

Form of Hive, and Feeding Bees.

I object to a low and flat shape of hive, for reasons which I shall assign. I will first state, however, that a hive of bees without provision for the retention of animal heat, is as helpless as a new born babe without raiment. Take, as an example, a hive twelve inches square, containing an oblong square perpendicular, and the frames to suit in size and shape. Your combs say eighteen inches in depth perpendicular, and twelve inches wide. The bees, in order to hatch brood, as the weather becomes warm in the spring, will cluster at the larva end of said combs, and keep up the temperature from bottom to top, because of two combined reasons, the combs being the long way perpendicular, and the natural tendency of heat being to rise, it ascends throughout the entire length of the combs, and thus the proper temperature is attained throughout the hive. It is a settled principle too, that a given quantity or number of bees can produce animal heat only sufficient in amount to rarify the air in a given space to a given temperature. Take, for example, a low flat hive, with combs say eighteen inches long horizontal, and nine inches deep, the hive being twelve inches wide, the same as the other. Now remember the principle just before stated. The bees will collect at the front end of the comb, and the animal heat, as generated, will ascend the same as along the combs in the other hive, which are eighteen inches deep; whereas these are only twelve inches deep. Is it not obvious that here one-third of every comb towards its rear end is entirely lost to the bees, so far as the early production of brood is concerned, because of the shape of the combs and the natural tendency of the heat generated to ascend? If the bees (being the same in number in both hives,) were spread out at the bottom of the combs in the last mentioned hive, the full size of the hive, the cluster would be twelve inches wide and eighteen inches horizontal. Then, on the principle that a given number of bees can generate only a certain degree of heat in a given space, they would fail to bring about the proper temperature in any part of the hive; and the result would be that they could not produce any brood. But allow them (as they will) to contract the size of their cluster, and you find that there is nearly one-third of each comb not used by them in the production of brood. Hence we find in the communications of bee-keepers such remarks as these—"My bees swarmed out of my common box and log gums earlier than they did out of my patent hives." But universally we find in such cases that their patent hives are low and flat in shape. We have used such hives, and know by experience the truth whereof we speak; and, fearless of successful contradiction, we proclaim that the time is not far distant when the practical bee-keepers will adopt the shape of from a square to an oblong perpendicular, the oblong being preferable. We once were of those who thought there could be no difference in the mere shape of a hive, but justice to the true principles of bee-keeping compelled a change of opinion.

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[*] No, let us *not* all *go west*, but rather let us have Novice *come east*—retaining his time-honored name the while.

What was the average annual yield of honey, per hive, in Novice's locality, when he began to keep bees? What were his surroundings *then*, as regards bee pasturage? and what are they now? If improved, are they so proportionately to the increased quantity of honey obtained? Would anybody *then* have believed it possible, by any means that could be devised, to secure, in any apiary, 6,162 pounds of surplus in four weeks, or five times four, from the area of bee pasturage within the range of the bees' flight, taking the town of his residence as the centre?

Now, if we mistake not greatly, the locality in Pennsylvania, as described by Mr. T., furnishes quite as ample pasturage. *naturally*, as that visited by Novice's bees Probably an unprepossessed observer, noting appearances or indications in each, would give the Pennsylvania locality the preference; and, very likely, Novice himself, at the outset, had he been called on to choose, and been free to select, would have so decided. Whence then the difference in the present results? Let Novice come east, and we shall see. We do not propose that he shall emigrate hither *in propria personæ;* no, but that his beekeeping *spirit* shall be imported. Let his mode of management be investigated, adopted, applied, and carried out in its spirit and to the letter. Then, if the result be not equally good, it will be early enough to attribute the shortcoming to some natural or climatic inferiority.—Ed.

There is still another reason why bees should have a hive long up and down. In cases of long continued extreme cold weather, the bees cannot move in a lateral direction to obtain food. But the warmth of the bees will aid them in obtaining it from above, from the fact that their warmth will ascend and keep the frost melted at a greater distance from the bees above them, than on the sides. And, further, when spring came, or in the month of April, my bees almost always became nearly extinct in the low flat form of hive.

Now, in conclusion, let me add some remarks on *feeding*. There is a principle in the feeding of bees that is truly astonishing in its effects. They may be fed in sufficient quantity to cause them to fill all the empty cells and thereby work a complete destruction of the colony, if the owner fails to remove some of the honey out of their way. Or they may be fed in such proportions that the prosperity and increase of the hive will be somewhat like the rolling of a snow-ball—the longer and further it rolls, the greater its magnitude becomes. The queen has the ability to deposit from 2,000 to 3,000 eggs every day in the height of the breeding season; and if bees are then excited by finding liberal supplies of honey in the flowers, yet not in such abundance as to cause them to fill the hive to overflowing, brooding and rearing young bees will proceed most rapidly. But if there is little honey or none yielded by the flowers, and the bees remain idle for some length of time, the queen will cease depositing eggs; while on the other hand, if the bees rapidly fill nearly all the cells with honey, the queen must necessarily cease laying, for want of room to deposit eggs.

Bees seem to have three periods of probation. The first twenty-one days of their existence are passed in the cell; the next eighteen or twenty one days they spend in the hive mainly, nursing brood exclusively, except when engaged at times in building or repairing comb; the next period is devoted to assiduous outdoor labor, and varies from forty to fifty days, in the busy season of the year.

Early and continued stimulation to activity, by feeding the bees, causes the colony to become strong in numbers. If therefore we wish for handsome profits from the labors of the bees, we must have them in great numbers, at all times in the hive. If we expect great quantities of honey from weak colonies, we are doomed to disappointment. In almost every locality there is a time, during the spring or summer, when bees cannot gather nectar from the flowers. Such spells are sometimes prolonged for months; and in some years, in Iowa, in the month of June, the writer has known colonies to starve to death. In such times of scarcity, the bee-keeper should always be on the alert, and begin feeding only in sufficient quantity to produce activity in the hive. It frequently occurs that bees use up all the unsealed honey in the hive, and almost stop brooding. They appear to be reluctant to open their sealed honey. It seems that there is a principle at this point which we have not been able to grasp yet. I think that as a rule, if bees run out of unsealed honey in the spring months, the keeper should, from time to time, shave off the capping of some of the full cells. This, I think, would answer the same purpose as feeding, by exciting the bees to activity. It should be practiced in all cases where there is plenty of sealed honey in the hive, in the forepart of the season; and feeding only to a limited and small extent, when the bees have used up their unsealed supply. In fact, feeding should never be resorted to, while the hive contains plenty of sealed honey. Better uncap some of it.

It is not by any means desirable to have a hive in the height of the breeding season, with the cells so stored with honey that the queen is unable to deposit eggs to the full extent of her powers. Better extract some honey, even if you have to return it again by feeding as the season advances, thus keeping up the activity of the colony.

There are many attempts to systematize bee-keeping. Some ideas communicated through the Journal prove highly serviceable. Others drop without effect, perhaps, except that they set bee-keepers to thinking, and sometimes to experimenting, which is useful, too, if it be not indulged in at too great cost.

J. W. Seay

Monroe, Iowa.

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Practical gardeners may find the management of bees, for their employers, quite a lucrative part of their profession.

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When a colony of bees has become hopelessly queenless, then, moth or no moth, its destruction is certain.—*Langstroth.*

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"Bees work for man, and yet they never bruise
Their master's flower, but leave it, having done,
As fair as ever and as fit for use."—*Herbert.*

[For the American Bee Journal.]

Bee Letter from Middle Tennessee.

Some weeks since, in company with a friend, armed with a pint of strained honey and a bee-box, we started for the edge of the cedars, distant from my apiary, in a direct line, not less than 2½ miles, where we found bees foraging. We boxed and coursed many, but found none that did not belong to my apiary. It was a very warm day, and being wearied, without pushing out a mile or two further, we returned home, to renew our hunt in the fall.

All the trees I ever saw, having bees in them (and I have seen many) had the entrance hole or crack on the south or southeast side.

Native queens of colonies five miles distant from Italian stocks, in two instances that I know of, mated with Italian drones. And in this connection, speaking of distances, I will mention the reception through the mail of two Italian queens, accompanied by about one dozen workers each, from Wenham, Massachusetts. Look on the map, and you will see it is a long distance from here.

Very little surplus honey has been stored here this season, on account of continuous rains during the spring and summer. Late swarms, not fed, have *gone up*. I have endeavored to keep my bees breeding, giving them repeated small quantities of honey, and have succeeded in doing so; and buckwheat being now in bloom, I hope to obtain a dividend for my outlay and trouble, leaving enough for the worthy laborers when nature shrouds herself in snow.

This is a great country to raise bees in, and I would think more of them if they would swarm less and store more honey. But swarm they will, and they cannot be kept from it. Breaking up an old hen from sitting when she has fairly made up her mind to sit, is an easy job compared to keeping bees from swarming in this section. Swarming commences in Middle Tennessee about the 20th of April, and becomes general about the 5th of May. These new swarms often cast a swarm in thirty days. Swarming is also frequent in August if the season be a good one, Our honey harvest is divided in two seasons—the spring, embracing April and May; and the fall, embracing August and September. Very little honey is stored outside those two dates, except perhaps in the month of March, if the spring is forward and fruit trees come in bloom; and in the month of October, if we have a favorable fall and frost is delayed. There has been no fall of honey dew this year.

Friend Novice's allusion to air castles in his communication in the Bee Journal for August, *struck our flint*. We read his communication to our better half. "Don't believe a word of it! Do you think that's so?" Exclaimed she. "I do. I have been following that Novice in print some time, and always found him truthful," Here's what's the matter. A spruce old aunt was at our house a few days since, and something was said about new dresses and the fall styles, when our better half broke loose with—"Don't expect to have anything new this year. Everything we've made this year has been spent for bee-gums and paints; and now the upstairs is stored so full, there's no place for old carpets and lumber. There's never been any money in that here, yet, and I don't believe there ever will be," &c., &c. H.

Murfreesboro, Tenn., Aug. 8, 1870.

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[For the American Bee Journal.]

That Shallow Form of Hive.

Mr. Editor:—I see in the July number of the Bee Journal, page 9, that Mr. C. Rogers is out on "the shallow Langstroth Hive." Mr. R. and *my old friend* Gallup are the only persons that I now recollect of, who complain of the shallow form of hive, when wintered in a house or cellar. Mr. Rogers says it is not a "good" hive "for the six or eight weeks between the winter and warm weather," and leaves it thus, without telling us why it is not. For my part, I cannot see what the shape of the hive has to do with the loss of bees in early spring. All bee-keepers say that the bleak winds at that season destroy a great many bees, regardless of the kind of hive they may have been in. All the proof Mr. Rogers gives that this form of hive is bad in early spring is, that "he has sometimes *thought* that his hives contained *less* bees after being out a month or two, than when first put out." Well, suppose it is so, is that the fault of the hive? Every experienced bee-keeper knows that when bees in any form of hive are taken from their winter quarters, there is a sudden decrease in numbers, from the simple fact that many of them are old and ready to die at any hour from sheer old age; but having been shut up all winter they live longer than they would in the working season. Then, when taken from their winter quarters and allowed to issue in the open air, many of them never return. But is this the fault of the hive? My experience is that any form of hive, when wintered in a cellar, will lose bees very rapidly when first set out; much more so than a colony that has been wintered on its summer stand. I can account for this in no other way, than that many of the bees have lived to a good old age, and are ready to die soon; and a sudden change in the weather being hard on them any how, weakens them in numbers very fast.

The Langstroth hive could be made deeper very easily without Mr. R.'s patchwork; but would it answer the purpose as well? I have found no other hive from which I can get the same results, in surplus honey, as from the "shallow" Langstroth. Last summer I tried the experiment with a hive with only six inches depth of comb, adding one more frame (*eleven* instead of *ten*.) The result was that I got some six pounds more honey from that hive, than I did from the common Langstroth hive, sitting within four feet of it and the two colonies as near alike in numbers as I could get them. Without doubt the shallow form of hive is best for surplus honey.

Now a few words about wintering bees in the Langstroth hive. Everything considered, I think bees do somewhat better when wintered in a cellar, provided they be arranged just right. But I have wintered bees very successfully in the Langstroth hive, on their summer stands, in northern Illinois and eastern Indiana. But young colonies that have new comb, should be protected, if wintered on their summer stands.

I hope Mr. Rogers will explain the whys and wherefores, and tell us wherein the Langstroth hive is lacking. B. Puckett.

Winchester, Ind., July 20, 1870.

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[For the American Bee Journal.]

Letter from Missouri.

Mr. Editor:—I send you a sample of something that seems to be troubling my bees very much. It is in small scales resembling the wing of some insect.* The bees come in with from three to five sticking to their mouths. It seems to trouble them greatly. I think I could pick up or rather scrape up a pint of it, on the bottom board of some hives.

This section of country is too much subject to extremes for bees. Last year it rained all through May and June, so that the bees could not get out to work; and they did nothing but swarm after that until September. Pollen was plenty, but honey scarce. This spring commenced well, but most of May and up to the 15th of June the weather was too cold for bees to work. Nearly all the fruit blossoms were killed by cold. Wild plums and crab apples did not bloom. We have had no rain for several weeks, and very little since last fall. Everything is parched up, leaving nothing for the bees. I am feeding nearly fifty colonies, and will have to continue doing so until we have rain and flowers begin to bloom again.

I could exchange one little farm here for fifteen hundred acres of mountain land in Pocahontas county, Virginia. Is that a good bee section? †

Too much wind here, even if the pasturage were good. My Italians are doing much better than the native bees.

I sowed the strap-leaved turnip last fall for early pasturage, but none came up this spring. Cold killed them. What kind is best to sow, or what is better? Would it do to sow ten acres in turnips, and mix Alsike clover seed with it?

I have watched nearly every movement a bee can make for the last three years, and read all the bee books I could get. J. K. Metcalfe.

Freedom, Mo., July 5, 1870.

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* The substance enclosed to us was so crushed and pulverized in the mail that we could not make out what it was, even with the aid of a microscope. At first view it seemed as if minute scales of wax were mingled with it, but none of it melted when exposed to heat. We presume it is of vegetable origin.

† We do not know how bees thrive in the part of Virginia referred to by our correspondent. Probably some of our subscribers in that section could supply the desired information. A large part of Virginia is unquestionably a first-rate bee country, and hardly second-rate in anything else.

What sort of crop to cultivate for early bee pasturage, in a climate as variable and uncertain as that which the writer describes, could only be ascertained by trial and experience. Alsike clover is only suited to a somewhat damp soil, otherwise in good condition. How far south or southwest it can be cultivated with advantage, for bees and cattle, is not yet known. We have no seed for sale—not dealing in seeds, bees, queens, or hives; but contenting ourselves with publishing the American Bee Journal, and striving to make that unsurpassed and unsurpassable.

[For the American Bee Journal.]

How we made a Honey Knife.

Some of our readers will perhaps remember the trouble which we had last season in uncapping cells preparatory to the use of the Honey Extractor. In justice to Mr. Baldridge we will say that the knife which we received from him was found, upon trial, to work very well—much better, in fact, than we expected. Our only trouble with it, was to keep it in cutting order. Still, we find that a knife for this business does not need to be kept so extremely sharp, if it be kept *hot* while in use, by occasionally dipping it in hot water. In *shape* we think this knife about what is wanted.

As *two* knives are found very convenient, one to be heating in the water while the other is in use, we concluded to try our hand at making one and succeeded so admirably that we will give a description of it, and the manner in which it was made.

We first took an old *scythe*—an article which can usually be found on every farm—and, with a cold chisel, cut a piece out of the straightest part, of such length as we wished the knife to be. This was then laid upon a block and cut lengthwise about three-fourths of an inch from the cutting edge. It was now taken and ground down smooth upon the back and ends, and the edge ground off at the ends a little in order to straighten it. It is then fitted into a suitable handle. You thus have a knife of whatever length you choose to make it, which may be ground very thin and will yet hold an edge well. The whole time occupied in making it, need not exceed an hour, provided the assistance of a second person can be had in cutting out and grinding. It will present a much neater appearance than one would think possible when commencing the job, and will I think give perfect satisfaction.

Of course the style will be governed much by the ingenuity of the maker.

Since writing, the above, we have received the August number of the Bee Journal, and in it notice the advertisement of the National Bee Hive Company, of which Mr. Baldridge is Secretary. It says—"no *wrought iron* knives for sale, in fact never *kept* them, nor *sold* them. *Liars* will please to take the hint." Indeed! I sincerely hope they will. Now, in justice to *myself*, I must say a few more words in regard to that knife, which we have already spoken about in this communication. When we received the knife last fall, it was shown to a person whom we thought a competent judge of metal, and was unhesitatingly pronounced—well, anything but *spring-steel*, as it could readily be bent into almost any shape, and would *so remain*. However as its quality was not mentioned before the purchase; and as it has been found, on trial, to work well enough for all practical purposes, when rightly used, I suppose we ought not to have said anything about that part of the transaction. The difference between the "best quality of wrought iron" and the lower classes of steel is so slight that, to separate them, would be like naming the hour that sweet cider becomes sour. Iron is used in three states; as crude or cast iron, as *steel*, and as wrought iron, the difference only depending on the relative amount of carbon with which the metal is combined—cast iron containing a larger proportion of carbon than steel, and steel more than wrought or malleable iron.

I have nothing whatever against Mr. Baldridge, this being my first dealing with him; and my only excuse for writing as I did (A. B. J., vol V, page 18,) is that, after waiting, and watching the post office, so long as I did, and finally receiving a knife—too late for use—which did not then come up to my expectations, I felt considerably out of humor, and told the whole story, when perhaps I should have kept *mum* and "swallowed" it all, as he had not advertised knives for sale, his reason for not being more prompt, may be that he was obliged to invent and manufacture it, after it was ordered. I have no doubt that parties ordering of him now, will receive knives that will give perfect satisfaction.

I. F. Tillinghast.

Factoryville, Pa, Aug. 5, 1870.

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[For the American Bee Journal.]

More about the Looking-glass.

On pages 34–5, Vol. VI., of the American Bee Journal, H. Nesbit states that he has tried the looking-glass theory to his satisfaction in *one* instance.

Now, Mr. Editor, I wish to say, in reply, that the glass has been tried three times, this year, to my knowledge, and three swarms of bees secured. The particulars of *one* case will be sufficient to cause most of the Journal's readers to try the experiment, when opportunity offers, whether one that has "*played*" the theory "*out*" will try any more, or not.

An old lady was in her garden, about four o'clock one afternoon, when her attention was arrested by the hum of a swarm of bees, leaving the top of an apple-tree that stood in the garden. The superstitious notion of stopping bees by the music of the cow-bell (peculiar to a certain class) was soon put in practice, but the bees moved on till *somebody* flashed the sun's rays among them, by the aid of a looking-glass. Then, almost instantly, from some cause or another, the bees scattered and some even fell to the ground; but in a few minutes more, all were snugly clustered on another apple-tree, in sight of the one on which a portion of them were first discovered.

Did the queen stop to rest in this case? Perhaps Mr. Nesbit will think she was defective; or would his reply to this be as ambiguous as his language, when he says in one place that there is "no use of your trying to go away, for I will stop you with the looking-glass;" and in another breath, after he had tried and failed, says—"I was rather a sceptic before."

Mr. Editor, he makes me think of an old Dutch lady, with whom I used to be acquainted, that knew how to bake bread and fry meat. You might read her a recipe from some agricultural or other Journal, for making something new and rich, and she would at once go about trying it, "to see if it was good." But, in place of following the directions to the letter, she would use the ingredients in quantities that seemed handiest; and the consequence was that she would make compounds to disagree with the gustatory organs of all hands. The fault was never with the old lady, and she could always tell that it was in the recipe; but in no instance could she be induced to try her hand a second time on the same thing. Perhaps, if Mr. Nesbit will take his looking-glass to the well and invert it, and instead of looking down the well, will look into the glass, he will see differently from the way he did on the other occasion. If he will take a glass large enough (a *piece* will answer the purpose; but it will depend upon how bright the sun shines, and the distance of the bees from the ground, what must be the size of the glass required,) I think he can stop a swarm in every instance.

Before quitting, I will also say that if Mr. Nesbit, or any one else will obtain the "*blackest*" and "*knottiest*" piece of wood, near the size of a quart pot, and secure it by means of a pole or otherwise, surrounded by foliage, in front of the apiary, before natural swarms issue, that by the time the fifth natural swarm is hived, the experiment will have very well paid him for his trouble with the knot.

Ignoramus.

Sawyersville, N. C., Aug. 12, 1870.

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[For the American Bee Journal.]

Bee Humbugs.

Since the introduction of movable comb hives, numerous attempts have been made to palm off on bee-keepers worthless hives and sundry humbugs.

As with other branches of business, so with bee-culture; it has its proficients, amateurs, novices, and pretenders. Generally, it is with the two last-mentioned classes that worthless hives and various humbugs originate. The novice is often suddenly attacked with that disease known as "bee on the brain," and ignorantly but innocently fancies he has mastered the whole science of bee-culture, and is therefore prepared to astonish the world by producing a bee hive that will supplant all its predecessors. Now, with many, to think is to act. Hence, yearly, there are introduced to the public several "best hives in the world," which, however, prove to be either bungling attempts at an imitation of some good hive, or a worthless throwing together of timber, embracing in its construction not one scientific principle, but often many features directly opposed to the nature and wants of the bees. Their fanciful shape, novel construction, and the many advantages they are said to possess, often cause a number of them to be sold to unsuspecting bee-keepers, who are not educated in the science of bee-culture. The country is full of such worthless trash, and parties often pay more than they would require to do for really good hives, the reputation of which has been established for years—hives constructed by those well acquainted with bee-culture, and who are hence qualified to construct a hive adapted in every feature to the wants of the bee.

The other class, whom I have styled pretenders, are generally unscrupulous persons, who do not hesitate at anything by which they can bring the "dimes" to their pockets. It is with this class that "bee humbugs" generally originate. Having a slight smattering of knowledge, they make great pretensions, and tell wonderful stories about bees—what strange things they have known bees to do; how one swarm went away, because the owner quarrelled with his wife; another because a child was buried, and the owner failed to whisper it in the hive; while a third was so particular, that it would not stay in the hive, because there was a rusty nail in sight! In this way they arouse the curiosity of the uneducated bee-keeper, who is soon ready to swallow all they have to say. They then come forward with their pretensions to superior knowledge. They can do this or that with bees. They have some wonderful secrets, and for a "V" (five dollars) they can tell you how to take the bees out of a box-hive, take their honey, put them back again, and they shall be all right "in the spring." They have also got a curious compound, a peculiar drug, with which they can charm the bees so that they will not sting, price "only fifty cents a bottle;" and the recipe to make it only another "V." Thus the honest and unsuspecting bee-keeper is victimized, while the swindling pretender "feathers his nest."

The following extract from a letter of inquiry, has called forth these remarks:

"During the past season, the management of bees has been taught in a secret school, and one of the things taught is the art of drawing bees from a tree a distance of two miles, even though it may not be known where they are located. As one of the students is preparing to sally out on the public, I thought I would write to you, for your opinion."

A person possessed of such power as this would be likely to surround himself with a large number of swarms in a very short time, if he performed his operations in some neighborhoods where hundreds of swarms are kept within a circle of two miles. He would certainly be an exceedingly dangerous person to have about, unless strictly honest, as he might draw off and steal all the bees. Perhaps his secret incantations have no attractions for bees that live in a hive; and, I may say and, for bees that live in a tree! Allow me to say to my bee-keeping friends that all the bee drugs or bee charms are bee humbugs. If any person is pretending to teach or to do what is stated above, he is either a knave or a fool, perhaps both.

To say the least, all such persons should be arrested, for obtaining money under false pretences. If bee-keepers would be safe, let them take a reliable Bee Journal or agricultural paper, where they will find such impositions exposed; and in purchasing hives let them select such as the experience of years has proved to be good.

J. H. Thomas.

Brooklin, Ontario,

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I never use a hive, the main apartment of which holds less than a bushel.—*Langstroth.*

[For the American Bee Journal.]

Proper Requisites of Hives and Movable Frames.

Mr. Editor:—There seems to be no subject connected with bee-culture so badly mixed up, as the above. One approves of a low and long form of hive and frames, and another of a short and deep form. Now I have seen and used nearly all styles in use, but never saw a frame hive but what was too deep for summer use, or too shallow for winter.

It seems to me we have been straining at a gnat and trying to swallow a camel. I think a frame in the clear, six or seven inches deep and eleven or twelve inches long is what the practical bee-keeper needs. But for the careless and indifferent, fixed top bars are too good.

Perhaps few if any have experimented with and used more different styles of hive than we have. Being a mechanic, and always having lumber and tools at hand, we have experimented too much for our own benefit. We have patented (like many others) one hive costing us $100; and have never realized a dime in return. But all right; I suppose the greenbacks are moving.

Now, Mr. Editor, I believe that the one thousand and one who are pocketing money for improvements in hives, would be just as honest and make more money, by picking up the farmer's box-hive, putting the Langstroth frames in, and teaching people how to use them properly—selling the same on commission for Mr. Langstroth or his agents.

But we must return to the sectional hive. Has any one ever used such a hive? If so we have never heard of it. We use two sections deep in winter, and from one to four in summer. We make our case twelve inches wide, using eight frames in the brood sections, and seven in the third and fourth sections, in which we get the greatest possible amount stored, in good shape for the table or market. Mr. Thomas, or any one else who thinks he has a hive that will offer so many advantages, as the simple sectional box, with Langstroth's frames in them, had best bring such hive out this way; and I will agree to sell them as fast as forty men can turn them out.

We have omitted to mention many little points, in the arrangement of the case and frames, such as beveling to prevent propolis, securing straight combs, &c, but will do so in a future article, if requested.

Charles Hastings.

Dowagiac, Mich.

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All necessary arrangements and preparations for properly wintering bees, in any kind of hive, should be fully completed in the month of October.

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Let me strongly advise the incorrigibly careless to have nothing to do with bees, either on my plan of management, *or any other;* for they will find both time and money almost certainly thrown away.—*Langstroth.*

THE AMERICAN BEE JOURNAL.

Washington, Sept., 1870.

The remarks on queen raising, by the Rev. Mr. Briggs, in our last issue, appear to be considered by some as aimed personally at Mr. Alley, of Wenham, Mass. We did not so regard them. Mr. Briggs' object seemed to us to be very different, and one in which queen breeders in general have quite as much interest as queen purchasers. Bee breeding, as a science, is yet in its infancy—not less so in Europe than here ; but is evidently engaging the attention of the best and most experienced apiarians, and has already led to some highly interesting discussions in the German Journals and Conventions. Of these we shall, in due season, take proper notice—we give, in this number of the Journal, several communications referring to Mr. Briggs' article, and shall probably have one from him in explanation.

☞ The March number of the American Bee Journal contained a call for a meeting of the Michigan Bee-keepers' Association, to be held at Lansing, on the 23d and 24th of that month.—Bee-keepers from other States and the British Provinces were invited to attend that meeting, as it was *proposed then to make arrangements for holding a* NATIONAL BEE-KEEPERS' CONVENTION. The Association met accordingly, and it was resolved to hold a *National Convention* at Indianapolis, (Ind.) on the 11th and 12th instant, but the time was subsequently changed to the 21st and 22d of December next, as better suiting the convenience of bee-keepers. The *place* designated seems now, however, for some reason, to have become objectionable to certain parties who probably have "axes to grind." They are now laboring hard to effect a change; but we presume the effort will fail, as we are assured from various quarters that the Convention will be held at Indianapolis.

A patent has recently been granted for a method of excluding bee-moths from hives by means of a long lever operated by a hen-roost. The inventor claims "a combination of a vibrating roost or perch for fowls with the slides or doors of one or more bee hives, when so constructed and arranged that the weight of the fowls upon the roost shall close the hives, and their removal from the roost shall open the doors." How this ingenious contrivance came to be patented at this late day, we do not know ; but certainly it is neither, "new" nor "useful." The same thing was tried and abandoned many years ago, as will be seen by reference to Langstroth's "*Hive and Honey Bee*," page 263, first edition. Possibly there is some new "modification" or some novel "combination" of material (chickens included), on which the claim to a patent is based ; but unfortunately, no modification or combination can ever enable him who employs this contrivance to circumvent the moths thereby.

When a colony in an apiary is found to be queenless, and has been so till all the brood has matured, it will generally be found difficult to get the bees to raise a queen from brood inserted, or even to accept and cherish a sealed queen cell. Repeated trials are usually necessary, and when successful the population has generally so dwindled, before the new generation attains the working age, that the colony is of little value, especially late in the season. The better mode is to introduce at once a fertile prolific queen from some populous colony, and let the latter do the queen raising; unless we have fertile queens in reserve in nuclei. With the transferred queen, several combs of brood taken from other strong colonies, should, if possible, be given to the one that has been queenless. The desired object will thus be more speedily attained, and frequently with benefit to the colonies drawn on.

The European Sparrow.

"A large number of German sparrows, have been imported and placed in the vineyards in the vicinity of Davenport, Iowa." So the newspapers inform us – the object, we presume, being the destruction of caterpillars. We fear, however, that the grape growers there have made a capital mistake, and are likely to have an easy time annually hereafter, when gathering the vintage.

It has been customary to charge the bees with damaging the grape crop, but it appears that in Germany this sparrow is the real offender. The Rev. Mr. Stern, an aged and well known bee-keeper, residing at Wessenburg in Lower Austria, writing to the Bienenzeitung about this alleged malfeasance of the bees, says—"I have lived more than thirty years in a village of three thousand inhabitants, most of whom derive their support from grape culture. Besides their vineyards, they have numerous trellises of vines at their houses, and there are several apiaries in the village. I have myself an arbor of vines, 180 feet in length, within twenty-five feet of my apiary. Now it has happened for many years that I did not get a single bunch of grapes, undamaged, from any vine in this arbor, and the other grape-growers in my neighborhood fared no better. Berries torn open were annually to be seen, and I have seen bees on *such* berries often—not indeed by 'myriads' nor yet by thousands, or hundreds, nor even by fifties, but only here and there a solitary one quietly sipping of the extruding juice. I have killed hundreds of *hornets* in the act of tearing open the berries, and thousands of wasps busy at the same work ; but *I have never seen a bee so engaged.* But, what flies and bees are wholly incapable of doing, and what wasps and hornets do only in part and occasionally, *is really the work of the* Sparrow, which, because its habits have been little observed or studied, continues to be held in high estimation in some districts. Even a small number of these birds can, in a few days, do exceedingly great injury in a vineyard, at the time when the ripening grapes are becoming mellow. They then peck open berry after berry, as though in sport, sip a little of the juice occasionally, and flitting away to some other cluster incessantly repeat the damaging process. I have witnessed this hundreds of times; and seen them do the work so effectually that, year after year, I have not obtained one undamaged cluster from my arbor.—This cunning sparrow knows, too, how to avoid traps and springes, and soon familiarizes himself with the most elaborate fantastic scarecrow set up *in terrorem*, acting apparently in derision and contempt of the baffled and mortified grape-grower."

Forty years ago, an American ornithologist, speaking of this species of sparrow and the injury done by it to grain fields in Europe, said—"*Fortunately we are free from this pest on this side of the Atlantic.*" Now we import them, and boast of it!

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CORRESPONDENCE OF THE BEE JOURNAL.

Tyrone, Ontario, July 16.—Bees are doing very well here this year. I have got forty pounds surplus honey from some of my hives already.—J. McLaughlin.

Washington Harbor, Wis., July 16.—This has been the best honey season, thus far, seen by me. A second swarm hived on Tuesday June 21st, on Wednesday night the 29th, weighed twenty-five pounds, besides having yielded thirty-eight pounds ten ounces taken by honey machine in eight days. I had given the swarm seven old combs and one empty frame, placed it on the old stand, and removed the old stock to a new place. On the 25th and 26th, it gained twenty-one pounds six ounces in two days, on raspberry and clover blossoms. This is the best day's work and week's work I have noticed. The queen began to lay on Monday the 27th, so they had no brood to nurse.

The next fourteen days they lost four pounds each. Basswood began to bloom July 13th. One hive gained fifteen pounds in four days; and in the next ten days I expect my five hives to gain thirty to forty pounds each, which closes the honey season here. The last two years the hives lost more in weight from the 1st of August to the 1st of November, than in five months in the cellar to 1st of April.—H. D. Miner.

Borodino, N. Y., July 16.—I think that you publish by far the best Bee Journal.

Gansevoort, N. Y., July 20.—I think the American Bee Journal worthy of every bee-keeper's attention, whether he keeps one stand or a hundred.

I would like to learn from some more experienced bee-keepers than myself, the best way to set bees for summer; whether exposed to the sun, in the shade of trees, or under a shelter made of boards.

It has been very dry here all summer, and flowers have nearly all dried up. Bees have swarmed but little and have not stored much cap honey. Box hives are mostly used here, though there are some others of different kinds.—Thomas Pierce.

Rich Valley, Minn., July 20.—The season for bees has been fair thus far; but I do not think this location so well adapted to the business as most of the States south.—L. M. Lindley.

Ridgeway, Mich., July 21.—I have one hundred and thirty colonies in box hives, somewhat like T. B. Miner's equilateral hive. I shall have about twenty hundred pounds of honey for sale this season.

I cannot learn that it would be wise for me to adopt the movable comb hive, as I have five hundred dollars invested in box hives, and have been successful with them. So far as I can learn I have the largest apiary in Michigan, and have perhaps, in the last thirteen years sold more surplus honey than any apiarian using box hives, or perhaps any other kind of hive. Honey sells for twenty to twenty-five cents per pound.—J. F. Temple.

Augusta, Me., July 22.—This is a very dry season with us. Bees will not give much surplus honey; and in some cases old stocks will not get honey enough to winter.—H. B. Coney.

Gebhartsburg, Pa., July 22.—This has been a remarkable honey season, and also for swarming. I practice artificial swarming, yet in spite of all precautions I got two natural swarms, and that too without the least preparation by the bees, for no queen cells had been started. This is contrary to the books and my previous experience.—W. Baker.

Hamilton, Ill., July 24.—No Bee Journal either on the old continent or the new, can vie with the American Bee Journal.—C. Dadant.

Niagara, Ontario, July 30.—We have had a good honey season, through June and part of July, from white clover; but I do not think bees are doing much now. I lost some honey for want of shade. The combs melted, though in double boxes.—F. G. Nash.

Excelsior, Minn., July 30.—Bees have done very well here, until the middle of this month, the season having been an unusually fine one, up to that time. Since then, we have had a change of weather and bees are doing nothing. The season has been a very dry and hot one, thus indicating—not for the first time—that dry warm seasons are the best for honey in this latitude.—J. W. Murray.

East Fairfield, Ohio.—Bees are doing very nicely here this year. I should like to see your valuable Journal have a wide circulation, and if it were carefully read, I think bee-keepers would generally do well.—J. Heustis.

Springfield, Ill., August 4.—Our pets have done nothing since 20th of June, but eat up what they saved before. The "heated term" has been unusually severe and long. We look for better things, now that the weather has changed and vegetation begins to revive. This morning one of my early June swarms (Italian) threw off a very large swarm. On examining the hive, I was not a little interested and surprised to find five beautiful young queens, evidently stretching their legs (my queens have legs) for the first time. Three went "where the woodbine twineth." I had use for the other two. Is not the simultaneous hatching of so great a number unusual? —W. L. Gross.

North Tunbridge, Vt., August 7.—We have had a very great season here for honey, but not as much swarming as usual. My bees have given me a profit of twenty-four dollars per swarm, in box honey.—D. C. Hunt.

Cleveland, Ohio, August 8.—I think we have a very poor locality for bees—the land being too flat, wet, and cold. No honey in the white clover blossoms this year.—R. Honey.

Virden, Ills., August 8.—We never had so good a season of white clover, in my recollection, as the past has been; but it has been so dry since that the bees have done nothing since the 1st of July. Our fall pasturage too will be short, on account of the drouth. Last year I got all my surplus honey after this time, mostly from Spanish needles and red clover. There will be very little of either this fall, consequently I do not expect much more surplus honey. I have increased my bees from twenty-five colonies to sixty-five.—J. L. Peabody.

Paw Paw, Mich., August 8.—The ever welcome American Bee Journal was received as usual. It contains a variety of reading matter from all sources, and it sounds like glad tidings unto all people. I have only one fault to find—it should come on the first and fifteenth of each month. How can that desirable end be accomplished? Will not our brother bee-keepers co-operate to bring it about? Bees have done finely here, this season.—A. F. Moon.

Ripon, Wis., August 8.—The Journal comes to hand promptly every month, accept my thanks for the effort you make to furnish us with a first class paper.—R. Dart.

Towanda, Ills., August 9.—The season for honey in this section of the country has not been the best or the poorest. Bees on the prairies did not swarm much, and there was great complaint of their leaving for the timber. One man here found fourteen (14) bee trees in one grove. But in the timbered portion of the country, the bees swarmed wide and gathered the usual amount of honey, namely fifteen to twenty-five pounds per stand.

Increased attention is being given to the culture of bees here, and I hope I shall be able to send you a much larger list of subscribers for your *excellent* Journal.

An accident occurred in the apiary of Mr. Cyrus Jones, in this township, that would probably come under the head of "Anger of Bees." While his hired man with the team, was hauling some old lumber from the yard, the horses became frightened and ran directly amongt he bees, knocking over seven stands and becoming fastened for a short time in a cherry tree. The bees swarmed out not only from those stands that were run over; but from most of the others (there being some twenty stands in all) stinging the horses terribly. The horses became frantic, rearing and plunging, broke loose from the tree, and ran into the next lot, breaking the wagon badly. One of them died in about three hours, and the other in the course of the day. While they were fastened in the tree, one of the men in throwing water on the horses, to *cool* I suppose the anger of the bees, lost his hat. The bees lighting on him stung his head and face so badly that his life was in danger. The horses were stung in their ears, nostrils, and bodies so badly that by taking a corn knife and scraping their sides, you could draw out thousands of stings. Mr. Jones estimates his loss at about five hundred (500) dollars. This accident occurred last spring. What would have been the best to do, in such a case?—S. C. Ware.

Wenham, Mass., August 11.—The weather has been very dry and hot all summer; but during the last few days we have had plenty of rain, though the air is not cooler.—H. Alley.

Lexington, Ky., August 12.—The July number of the Journal failed to come. I began to fear you had ceased to publish the Journal, as I did not receive one for so long. *That* I hope will never happen, as long as it is doing the good to the bee-keeping public, that it now is. Long life to you and it.—Dr. J. Dillard.

Lisle, N. Y., August 12.—As your correspondents commenced boasting early, I should like to hear from them again, to learn whether the drouth affected them as much as it has us, in this part of the country. I think bees never did better than they did during raspberry time. It then became so dry that they have not got much since, till now that they are working on buckwheat freely. From one double Langstroth hive we have take seventeen full six pound boxes, and the bees are working in six more. They filled both hives themselves, except six frames that were transferred. I think this is doing very well, as it will make eighty pounds in frames more than they need to winter on. We are sure of thirty-six pounds more. We have a good many young swarms that have already over one hundred pounds of box honey taken off. I will give you, this fall, the total result. I think it will convince people that bee-keeping pays.—H. S. Wells.

Campbell's Cross, Ontario, August 12.—I have the first four volumes of American Bee Journal bound in two, and would not take five times their cost if I could not get them again. I would freely pay double to get them twice a month. It would pay to get them, if a person has only one hive, or no bees at all.

Bees have done well, in this section, this season. They swarmed two weeks earlier than usual. We have plenty of swarms and surplus honey. Second and even some third swarms will gather honey enough to winter on, My bees are all in frame hives. The Thomas hive is all the go in Ontario. My bees are nearly all Italians, bred from the stocks of J. H. Thomas, Brooklin, Ontario, and Henry Alley, Wenham, Mass.,—both of whom I could recommend, their stock of Italians being very pure and well marked.—H. Lipsett.

Gnadenhutten, Ohio, August 15.—We have had a prosperous season, this summer, both for honey and swarms. The weather was good from the time the fruit trees blossomed until the close of the white clover blossoms. It is refreshing to the drooping spirit to have a season of plenty after such poor seasons as the previous two were. Our success would be better if we had some reliable plants to supply honey, after the white clover is past. That is now our main dependance, and when it is a partial failure our late swarms cannot gather sufficient store to last them over winter; and buckwheat is at best an uncertain source for honey.

As there is considerable rivalry among inventors about patent hives, and divers contrivances are recommended to bee-keepers as the *ne plus ultra* of perfection, I will state that some years ago I invented a side-opening leaf hive, with a sliding bottom board. Either front or rear side is a door, through which the bottom board slides. At the opposite end of the hive from the door, in the side of the hive, is a frame or yoke, fastened to the sides of the bottom-board and reaching half way up the side of the hive. On top of said yoke are clasps fastened loosely to the yoke with wire rivets. These clasps hold the frames by means of wire hooks driven into the frames and hooking over a shoulder on top of the clasps. The clasps move sideways, and allow the frames to be moved sideways, like the leaves of a book, and also to be taken off. The part of the hive with a hook in, has a piece of wire driven in at the bottom, to serve as a pivot, and works in a gimlet hole in the bottom board. In operating with the bees in, the door is opened and the fastenings made by the bees are to be cut loose; then the bottom board with the frames is drawn out of the hive. It is perhaps as good a side-opening hive as any, with the additional good quality that there is no patent on it. Any one is at liberty to use the invention. For myself, I prefer top opening hives, as more convenient.—S. Luethi.

[For the American Bee Journal.]

Death of James T. Langstroth.

Mr. Editor:—I desire to offer, through the medium of the American Bee Journal, a slight tribute of respect to the memory of James T. Langstroth, the only son of Rev. L. L. Langstroth, whose death was announced in the July number of the Journal.

Mr. James T. Langstroth was well known to most of the leading bee-keepers of the country, either personally, or through business correspondence relating to bee-culture, during the last ten years; and certainly no young man could have more completely won the confidence of all with whom he came in contact, than he has done, by his intelligence, modesty, strict integrity, promptness, candor, and perfect manliness in all his transactions. Aside from bee-culture, he took an active interest in, and was generally at the head of, all patriotic, charitable, or social organizations in his immediate neighborhood. In fact, he was the leading young man in the town in which he lived. But above all his other excellent qualities, stands, in my estimation, his unselfish and untiring devotion to his aged, infirm, and dependent parents. Next to the care of his own little family, his father's, mother's, and sister's comfort, wants, and wishes, were uppermost in his mind. Although suffering many months from the insidious approach of consumption, yet fraternal and filial devotion nerved his wearied spirits to active labor, almost to the last day of his life. I saw him on his return home from his office for the last time, with glazed eye and haggard cheek, yet full of hope and plans for the future, after a few days of rest and recreation.—But his earthly career is ended, and that father's only support is taken away. Who will take that son's place? Who *should* take his place, unless it be the bee-keepers of America? Brother bee-keepers, laying aside all prejudice, and all minor points of difference, and detracting nothing from any man's merits, are we not indebted to the Rev. Mr. Langstroth, more than to any other person for a part of our success in our noble pursuit or pastime?

There is one point, I believe on which the bee-keepers of the country, and even all patentees of bee hives, of *whatever kind*, agree—namely, that Mr. Langstroth *introduced* movable frame hives into this country. Admitting for a moment, that that was all he ever did for the benefit of bee-keepers, does not even that act deserve some compensation from our hands? I think it does. Again, Mr. Langstroth was among the very first, and but for an accident would have been the first to introduce into this country the Italian bee. He has imported them every year since, and has every year furnished the leading queen breeders of this country with their choicest queens to breed from. Do we owe him nothing for this? Again, he was the first to introduce into this country the Egyptian bee, the merits of which are not yet fully developed, but the importance of which will in time come to be duly appreciated. And, lastly Mr. Langstroth, was among the first to introduce to the notice of the bee-keepers of America, the invaluable Honey Extractor. Does he deserve nothing at our hands for this? Gentlemen, talk as you will, Mr. Langstroth has been the pioneer bee-keeper of this country for the last quarter of a century; and there is a fearful account against us, and in his favor, that I fear we shall not be able fully to pay. But we can do something. We can make him comfortable for the balance of his days, and still be vastly enriched ourselves through his labors.

If we are so indebted can we not, in part, liquidate that indebtedness *now?* Can we not make up our minds to send him, *at once*, some substantial token of our appreciation of his labors of a lifetime for the advancement of bee-culture? He and his family, and his son's family now dependent on him, need all that is rightfully due to them. If you feel that you owe him five, ten, twenty, or a hundred dollars, don't wait for somebody else to begin or to join with you; but send a check or a post-office order for the amount directly to his address. If you have honestly paid him his price for the right to use his invention, don't let that entirely satisfy you. Ask yourself whether you have not made too good a bargain, and whether you ought not to restore to him, to-day, a part of your profits? Don't stop to inquire whether Mr. Langstroth owns territory where you live, send him a five dollar or a ten dollar bill at once, and pay the rightful or legal owner of the territory, as soon as you find him out. You could better afford to pay five dollars royalty on every movable frame hive you use, than use the old box hive. This deferred payment, let us call it, made *now* will do much good, and will give you a clear conscience, no matter whose patent you are using, for they are all modifications of the Langstroth hive, although they are not all infringements. Brother bee-keepers, don't wait for each other to respond, but send at once to this address—Rev. L. L. Langstroth, Oxford, Butler, County, Ohio; and may heaven prosper you for so doing.

R. Bickford.

Seneca Falls, N. Y. Aug. 1, 1870.

P. S.—I have written this without the consent or knowledge of Mr. Langstroth, or his family, simply because, knowing the circumstances, I felt it a duty and a privilege to speak—R. B.

◆

The Egyptian beehives are made of coal dust and clay, which being well blended together, the mixture is formed into a hollow cylinder about a span in diameter and from four to six feet high. This is dried in the sun, and becomes so hard that it may be handled at pleasure.—*Domestic Encyclopædia.*

◆

Whoever intends to erect an apiary should purchase colonies towards the close of the year, and only such as are full of combs and stocked with a sufficient number of bees should be chosen. To ascertain the age of the hives, it should be remarked that the combs of the last season are white, while those of former years are dark yellow. Where the combs are black, the hive should be rejected, as too old and liable to the attack of vermin.—Dr. Willich.

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Origin of Honey Dew.

In No. 11 of the Bienenzeitung for 1870, the Baron of Berlepsch urges bee-keepers to make diligent observations, to ascertain the origin of honey dew. I have for many years given special attention to the subject, as it is one of great interest, not only to bee-keepers, but also to pomologists. My observations fully corroborate the remark of the Baron, that honey dew occurs, in most cases, independently as a vegetable excretion, and only occasionally as the product of aphides. On last Sunday, June 19th, I had an opportunity to assure myself definitely of the correctness of this position. On that day, as early as seven o'clock in the morning, I received a visit from Mr. Heuser, of Westom, one of the intelligent apiarians who compose the Ahrweiler Association for Bee-culture. While we sat conversing about bees, a lad came to inform us that he had, the evening before, seen a fine swarm clustered on a large pear tree. We naturally hastened to the spot, but found that the swarm had already decamped. A loud humming among the branches, however, led us to suppose there might be a hollow limb somewhere, into which the bees had retreated, and friend Heuser was induced to climb up in search of it. He found none, but observed a multitude of bees busily engaged licking up the honey dew with which the leaves of the tree were covered—being evidently an exudation, for on the most careful examination we could not find a single aphis, though on the morning of the next day thousands of aphides were observable there.

It remains for me to mention the state of the weather at the time, for according to my observations this chiefly conditions the production of honey dew. On Saturday, June 18th, the weather was oppressively hot. Towards evening the wind began to blow from the northwest; and the night was cool, though without dew on the grass. This necessarily checked the circulation of sap, which I regard as the primary cause of honey dew, for I may state explicitly that I never saw any, except when hot days were followed by a sudden and great reduction of temperature. The same observation was made, many years ago, by an aged bee-keeper in Niederheckenbach, who, whenever he notices in summer a sudden change of weather, at night, from great heat to cold, will rise at three or four o'clock in the morning and close the entrances of his hives; as he is firmly persuaded that the honey dew certain to come, will be injurious to his bees. I must confess that honey dew has not always proved beneficial to our bees. In some cases they seemed to be sickened by it, and to remain so for nearly a week, as indicated by their inability to fly. This was more especially the case at an apiary which I had in an oak forest, where bark was largely stripped and dried for tanners' use. I am unable to account for the occurrence, and must leave chemists to determine whether the consumption of *tannin* had aught to do with it. Whenever honey dew occurs in my neighborhood again I will strip leaves from various trees affected by it, and send them for examination to Dr. Keermrodt, of Bonn, the chemist of the Agricultural Experimental Union of the Rhine province.

The views of Prof. Hallier, that the honey dew produced by aphides is of great practical account in bee-culture, I am not prepared to endorse. During the summer of 1869 I was a student in the Pomological Institute at Reutlingen, and very seldom saw a bee on any twig covered with aphides, yet we were there sorely annoyed by those parasites. Even now, I am compelled to use soapsuds, &c., to rid my plants of these unwelcome visitors, yet I have never seen a bee among them.

Your readers will probably be interested in learning the views of two of the most eminent pomologists, regarding the origin of honey dew.

Court-gardener Jager, of Eisenach, writes as follows to Regel's Garden-Flora:—"According to my observations, honey dew is much more frequently exuded from the leaves of plants than produced by aphides. I regard honey dew, in many cases, as *a segregation of the saccharine portion of the juices of plants, which these are then no longer able to excrete out of their organism by means of the blossoms.* I was led to adopt this view by repeatedly observing that linden trees so kept under by pruning that they never blossom, excrete such a superabundance of honey dew that such as is not gathered by insects, drips from the leaves to the ground, and is often collected on boards and bottled. Linden trees

Entered according to Act of Congress, in the year 1870, by Samuel Wagner, in the office of the Librarian of Congress, at Washington.

which are allowed to blossom, do indeed likewise produce honey dew; but I have never seen it on trees that bloomed profusely, and as I live in the midst of lindens, I have the best opportunities for observation."

Next, my own respected teacher, Dr. Lucas, of Reutlingen, remarks, in a note on the foregoing passage—

"This observation of our esteemed friend Jager certainly deserves attention. Whether he is entirely right or not, is to me not altogether clear. I have seen honey dew indiscriminately on young trees and on old of various kinds; but always only after we had several successive hot and dry days, followed by dewless nights. It is very probable that then the juices of plants become more concentrated, and thus more highly charged with saccharine, in so much that drops of liquid sweet may exude through the pores of the leaves, and that then the aphides will quickly resort to the tables thus ready decked for them, and multiply with almost incredible rapidity, is a natural phenomenon observable in the case of other insects also. But that the aphides are the originators of the honey dew, as many foresters and others maintain, can certainly not be accepted as correct and true."

Allow me, in conclusion, to request bee-keepers and pomologists to watch for the appearance of honey dew on the occurrence of such weather and temperature as above indicated, and to communicate the result of their observations.

A. Arnold,
Travelling Lecturer of the Agricultural Union, Province of the Rhine.
Löhndorf, June 22, 1870.

[For the American Bee Journal.]

Profitable Bee-keeping.—Letter from England.

The following account shows the very great advantage in keeping bees on the humane and improved system, over the old and barbarous practice of the brimstone match, so clearly, that I send it for your readers to go and do likewise.

In the autumn of 1865, I was at the seaside on the Lancashire coast, and found bees kept in that neighborhood in the most primitive and bad way I ever met with in any country. It was the system there to put the swarm in a large brown wicker basket, and at night to plaster a thin coating of cowdung over the outside, and leave it in this way all summer. I have frequently seen the bees coming out of holes all over the hive, from top to bottom, not being able to fill up all the nicks with propolis, and giving it up as a bad job; and if it was not a good district for honey, they would give up the ghost altogether.

When the bees give over working, the owner plasters the hive with mortar, for the winter. The entrance is made three or four inches high from the cold slate or flag on which they place the basket. When they take the honey, they suffocate the bees with brimstone. Wasps often destroy the stock.

In my perambulations I called upon a person who had kept bees for a number of years in the old way; but they had all died off except one stock. After talking with him for some time on the humane and profitable management of his bees, and showing him the great loss that he sustained by murdering his poor bees, to say nothing of the ingratitude or sin in killing them after they had been laboring for him early and late all the summer, and proved to him the very great advantage the modern bar-frame (thanks to the Rev. L. L. Langstroth, the inventor) from which the honey could be taken without killing a bee, and swarms made or prevented, as we liked. I showed him that in fact, with these hives, he had the full control over his bees, and could make them do almost anything he liked.

He asked me to get the man that makes my improved bar-frame hives, to send him some; and I afterwards sent him information he wrote for in several letters.

When I called on him last October, I found twenty stocks of bees in his garden, all very strong, with plenty of honey to last them over the winter; and he had sold nearly *three hundred weight of honey*, all of which he had taken that year, *without killing a bee.* He has now got his stock up to the number he intends to keep, so this year he will work for honey; and if it is a favorable season, his bees will collect for him an immense store and make him a nice addition to his income.

The same year that I called upon him, I called upon his neighbor, a person much better off than the other, and he then had three stocks of bees. I advised him to adopt the more profitable and humane system of management; but he did not; and when I called on him again last October, I found three weak stocks of bees in his garden, and he said he had taken *no honey* that year and got very little the year before. I turned his hives over and found an accumulation of wet filth and dirt, nearly an inch thick on the slate floors on which his hives were placed, and the bottoms of the combs all mouldy.

I told him if he had done as well as his neighbor, he should now have sixty stocks of bees in his garden and have taken more than a thousand weight of honey that year. He is now, with others in that district going to adopt the humane system of management, and I hope bee-murder has forever disappeared in that locality, as I always find, when they see the loss to their own pockets, it is the most convincing argument that can be used.

William Carr.
Newton Heath, near Manchester, England.

Bees sometimes abandon their hives very early in the spring or late in the summer or fall. They exhibit all the appearance of natural swarming; but they leave not because the population is crowded, but because it is either so small, or the hive so destitute of supplies that they are discouraged or driven to desperation. I once knew a colony to leave a hive under such circumstances, on a spring-like day in December! They seem to have a presentiment that they must perish if they stay, and instead of awaiting the sure approach of famine, they sally out to see if something cannot be done to better their condition.—*Langstroth.*

[From the Western Farmer.]

About Patents.

A student in the Michigan Agricultural College has invented a gate latch, for which he has received $10,000.

We find the above item in our exchanges. Assuming it to be true, we commend the good sense of the student. If the usual results follow, the purchaser will either lose money by the operation, or will speedily sell "rights" to parties who will lose money. We have no wish to discourage inventors, for they certainly are entitled to full reward for any improvements or discoveries they give the world. But we think it is clearly true that the great mass of inventors—especially those whose inventions relate to "little things," or articles in common use—place too high an estimate on the value of their patent right, often holding it, waiting for better offers from manufacturers or purchasers of "territory," until some one patents a better device for the same purpose, when the first becomes useless or nearly so.

There are certain inventions of very great value, because they supply a want universally felt. But even in such cases it is rare that the original inventor secures so high a degree of excellence that some one else cannot improve on his device. He may, however, succeed in patenting something which subsequent inventors will have to use, and for which privilege they must pay him. To illustrate : the plow is of almost universal use, yet there are objections to the best plow that has been or will be constructed. Suppose some one should invent an implement that would obviate all these objections, and do the work of preparing the soil for seeds better than any plow can, and do this work quickly and cheaply. Such an invention would be of almost incalculable value, and the inventor might well expect to become very wealthy. Yet it would be strange if some one did not improve on this invention, and thus divide the profits—perhaps take the larger share. Hundreds of men have suggested improvements of more or less value in reapers, after the main principle had been given to the public.

In case of such an invention as a gate latch, it must be remembered that there are already very good ones in existence, and probably a still better one may soon be invented ; and so we say that, in all ordinary cases, it is better to sell the patent if any such price as $10,000 is offered for it. However useful such an invention may really be, the inventor as well as the intending purchaser of a "right" should carefully avoid forming extravagant opinions as to "the money there is in it." The farmer or other business man who gives up his regular business to engage in the sale of patents, in the great majority of cases, does a very foolish thing.

We write this, because we have noticed in many cases the high anticipations of inventors or of purchasers of "territory" for some patent, and the disappointment and loss that followed. If any of our readers have invented anything they are convinced is of value, we say patent it by all means ; but do not think of leaving your farm or other business to engage in its sale, or dream of sudden wealth to come from it.

* * *

[For the American Bee Journal.]

Hurrah for 1870, and the Honey-slinger.

The best honey season on record, and the most useful invention ! Long live our German friend, who gave it to us without a patent !

The battle is past, and we can look back and see if the generalship has been, like that of the Prussians, well managed—or, like that of the French, left to manage itself.

I had two stocks last spring, and the empty combs from two hives that died about the first of March. The first swarm was hived on the 18th of June, and the honey-gathering on bass-wood closed July 26th—so that none of the young bees in new hives were then old enough to gather honey.

I have taken one hundred and eighty-seven (187) pounds with the machine, and on the 26th of July had from five hives, 228 lbs., or forty-five pounds each. They had gained forty pounds each, in thirteen days, on bass-wood blossoms. The best stock gained, 52 lbs. 8 oz. A queenless stock gained 33 lbs. 10 oz. The best day's work, 7 lbs., Aug. 16. The best day's work in June was Saturday and Sunday, the 25th and 26th—a gain of 21 lbs. 6 oz. on red raspberry blossoms, or 10 lbs. 11 oz. per day. I see that NOVICE reports 43 lbs. in three days, 25th, 26th, and 27th of June. As he reports bass-wood at its best July 6th, the flowers must be ten or twelve days earlier than at this place. So his best yield of honey, on the same days as mine, at 600 miles distance, was perhaps on account of the weather, or some electrical state of the atmosphere.

In June I took from my stocks what honey they had above twenty pounds each. While bass-wood was in blossom, I tried to take what they had above forty pounds each. The honey-emptier appeared to take away all disposition to raise a lot of drones in July. When I depended on box honey, the hive was crowded with honey before the bees would work in boxes.

As it took two pounds per month in winter to support a colony of bees, at this rate the twelve ounces of honey required to rear a thousand drones would keep a thousand workers four and a half months. I believe drones usually live about two months. So when NOVICE shaves off the heads of drone brood sealed over, he has already lost two-thirds of what it would cost to let them live ; and the presence of drones might perhaps prevent the raising of more drone brood.

I would like to have NOVICE answer one question through the BEE JOURNAL, and that is—Do light queens make better honey-gathering stocks than dark queens from the same parents ?

HENRY D. MINER.

Washington Harbor, Wis.

* * *

A charlatan is an impostor who lives by the folly of those who are imposed upon.

[For the American Bee Journal.]

Comments on Querist No. 7.

On page 83, Vol. V., of your most valuable journal, Querist seems to be at variance with our position in an article on page 55, of the same volume, where we assumed, as we yet maintain, that "the first and highest law of nature in insects is self-preservation in caring for offspring, &c. The honey bee seems to be endowed with this instinct for the purpose of preserving the brood in the hive." Querist asks—"Now, is this statement correct? If the preservation of offspring is the strongest instinct that governs the honey bee, then why does she remove unsealed larvæ from the cells, to make room for a rich honey harvest? Mr. Otis, of Wisconsin, claims that the strongest instinct of the working bee is the love of storing honey. So it seems the position assumed by Mr. Seay, is at variance with that of Mr. Otis, and one or the other must of necessity be wrong."

As to being at variance with some eminent *bee*ologist, we have not a doubt that it is so, but you know, Mr. Editor, great men will differ. I deny emphatically that the workers will destroy the unsealed larvæ for the purpose of storing honey. I have never seen any evidence of it among my bees, and should be pleased if some correspondent (if he thinks such is the case) would take the affirmative and give the evidence.

To satisfy himself, that the first and highest law of nature in the honey bee is self preservation and the perpetuation of the species, Querist need only have a fair open contest with a hive of bees. Why do they sting? For self-preservation and the defence or preservation of their colony (species). Injure a single bee in the hive, and the whole colony is instantly exasperated. Cause the honey to run out without injury to any of the bees, and the effect is somewhat different. Tear the comb containing sealed brood, and the bees are at once enraged. And for what purpose? For self-preservation as a colony, in caring for the offspring. Why do they gather honey? For self-preservation and perpetuation of the species.

Is there nothing in all this to demonstrate the fact that the first and highest law of nature in the honey bee is self-preservation and the perpetuation of the species?

If this principle did not pervade the universe, everything would be chaos and confusion. It enters into and becomes the fundamental principle upon which the human family, the animal creation, and the vegetable kingdom have their existence. What causes the mother to care for her infant? It can be nothing less than this. If Querist were hemmed in some corner by an assassin who sought to take his life, and he had power to save himself by killing his antagonist, would he not do it? What causes the animal to care for its young, as the cow for her calf, or the sow for her pigs, or the birds for their unfledged young? What causes the bee to sting when the hive is improperly treated, or the smallest pismire to bite when its tenement is disturbed? You may pass from the human family down through the entire animal creation to the smallest animalculæ, and this (as it were) immutable principle pervades the whole series. Every once living thing that has become extinct as a species upon this earth, failed from some unknown cause, to comply with this grand fundamental principle—*self-preservation and perpetuation of species.*

Querist next says—"Again, is it not a fact that the self-preservation of the matured bees, is far stronger than the love of offspring? Witness, for instance, the destruction of drones during a dearth in the honey harvest? I do not know whether I understand him here. When I say, honey harvest, I mean a time when there is plenty of honey to be found by the bees in flowers, honey dews, &c. Webster's unabridged gives the meaning of dearth as "scarcity, want, need, famine." These two terms then stand in direct opposition to each other. A honey dearth within a honey harvest is an utter impossibility. It implies two distinct terms, not both existing at one time, as a man within a man, or a horse within a horse. Language seems here to have betrayed Querist over to my side of the argument. It is true that the workers do destroy the unhatched drone brood in time of dearth. But why do they do it? It is in strict obedience and conformity to this alleged first law of nature.

Does Querist not know why his bees are so slow about entering their honey boxes, for the purpose of building combs? It is simply this grand fundamental principle that prompts. It is only because there are supernumerary bees in the hive that a portion of the workers leave the brood and enter the out-of-the-way receptacle. The temperature required to produce brood is 70° to 80° Fahrenheit; and the amount of brood produced is governed by the number of mature bees in the hive. If the greatest instinct in workers be to gather honey, why do they not abandon the brood *en masse*, go into the honey boxes, and begin comb-breeding, when the grand flow of honey is to be found in the flowers? Because they would thereby doom the colony to inevitable destruction. Why do not bees enter honey boxes of their own accord, without waiting to be coaxed (as is generally the case) by placing therein small pieces of empty comb? Because their numbers will not permit them to leave the brood. And the same law of instinct, steps in and tells them that the brooding department must be run, whether combs are built and honey collected, or not. Why do they not build combs as readily in honey boxes above the combs containing brood, as they will in an open space below? Because they can thus produce the required temperature of 70° to 80°, and the heat generated below will ascend through the brood combs and bring about the same temperature above also (among the brood), thus accomplishing a double purpose, by virtue of the natural tendency of heat to ascend.

Querist says—"Mr. Seay has much to say about brood chilling." This is true, and I have still more to say about it. It is this—it is brood just hatched, or not more than four days old, that is so easily chilled. This brood is very hard to see in the cells, and bee-keepers are not looking for it to be chilled; but when it becomes so and is lost, without having been seen in that state by the inattentive observer, its destruction is not the less attributable to that cause. Querist says' where he lives, "sealed brood is not very likely to become chilled during June and July—the swarming months, and but few bees are necessary to keep it at the proper temperature to mature." We do not know where Querist lives, but we do know that in Iowa in the months of July and August, on replacing our frames after handling them for some time, when the temperature was rather low for those months, we have frequently designated the place in the combs where young brood existed, by piercing the combs in a circle around it, with short stems of timothy grass, and left them there for a day or two that I might be sure to find the exact place and cells again; and, in many cases, on re-examination, I found no brood in those cells. I have repeatedly made swarms in the Langstroth hive, and afterwards found that the brood, in what I call the first stage, was gone. J. W. Seay.

Monroe, Iowa.

[For the American Bee Journal.]

Report of Apiary in 1870.

The Field. The farmers cultivate their fields for produce for the city. They are so frequently broken up that white clover has a poor opportunity for an abundant crop. But little buckwheat is sown. This season none of any consequence within three miles. Fruit blossoms in the spring were unusually abundant.

The Season. The early part of the season was favorable for gathering honey. The breeding apartment of the hives was well stored with brood and honey at the commencement of the white clover harvest. This harvest was, however, shortened by the drouth, and no honey was stored in boxes after the middle of July; and in some cases honey was removed from boxes partly filled.

Number of Colonies. I set upon the stand in the spring twenty-three colonies. Of these, three were in old box hives which were broken up when they cast the first swarm, and the hives converted to kindling wood. One of the remaining twenty, from loss of queen or other cause, failed entirely; and a new swarm was introduced to occupy its place. This left nineteen of the old colonies, for giving swarms and surplus honey.

Surplus honey in boxes. I find on adding up the product from my hives, they have given me one thousand and eighty (1,080) pounds of surplus. Perhaps in an ordinary field and poor season I should be content with this; but I think, with the experience of this season and some improvements in my hives, I could do better tried over again.

Of this 1,080 (or to be exact, 1,080½) pounds, five colonies give 625½ pounds, an average of 125 lbs., and 74¾ lbs. more than half of the whole surplus. One of the five best gave one hundred and ninety-eight and a half (198½) pounds.

I attribute this success of my best colonies to the following causes:

1. A full force of workers at the commencement of the season. To secure this, I fed them two or three pounds of syrup, when first placed upon the stand early in March.

2. This gave them from one to three weeks start of the others, in commencing work in the surplus boxes.

3. I think, further, one cause of such force of workers was a most prolific queen. Twelve boxes of six pounds capacity are now almost full of bees, though without honey or comb, except one or two.

4. But this great number of workers, and early filling the hives with bees, would not have given the surplus had they not been satisfied not to swarm. With the purpose to swarm and preparation for it, they would have given an early swarm, followed by one, two, or three after-swarms probably; and the 198 lbs. of surplus have been placed in other hives in the shape of arrangements and stores for wintering one, two, or three new colonies of bees.

In my experiments with bees, I have generally found a loss of two weeks time in preparation for swarming, in which little or no surplus honey is stored—the great body of the workers clustering out in idleness. Or if boxes were furnished them and filled with bees, I have been disappointed on the swarm leaving the box empty of bees, to find it entirely destitute of honey.

Although my advanced age and infirmities moderate my ambition in the new business of bee-keeping, and so limit my experiments that I have never tried to increase my stock by artificial swarming, I have no doubt but the greatest success in the business can only be secured by the use of non-swarming hives and artificial swarming. Overstocking the honey-field is, in my settled conviction, the great obstacle in the way of satisfactory success. This makes it necessary to have the entire control of the increase of colonies, to limit their number to the capacity of the field. I hope to do better another season, from knowledge gained by the experiments of the past.

Jasper Hazen.

Albany, N.Y., Aug. 12, 1870.

[For the American Bee Journal.]

Four-Banded Bees.

Mr. Alley says, in the last number of the Journal, that Mr. Briggs "may bet a high figure that no worker bee in this country ever showed four bands." I beg respectfully to differ from him, having a queen now in my possession which produces bees that plainly show *four* bands, when filled with honey.

I noticed this before seeing anything about four banded Italians, in any publication. It is true, that the Baroness Von Berlepsch wrote me early in the spring that Dzierzon was selling such queens, but that was the only time that I had heard of them. The queen mentioned above was raised by me last season, and is not purely fertilized, as many of her bees show only *one* band.

Daniel M. Worthington.

St. Dennis, Md., Sept. 5, 1870.

A bee-hive is a school of loyalty and filial love.

[For the American Bee Journal.]

Novice.

Dear Bee Journal:—Just hear the good news,—our bees are again at work! Not, indeed, at the rate of ten or fifteen pounds per day, as in June last; but they are really at work at this date, September 9th.

We had been building some more "air castles," and had talked of another yield of honey in August and September. After waiting some time, and watching and weighing a hive without any increase, we at last began to perceive a gain in weight, first of half a pound, then a whole one, and yesterday a stock of *Italians* gained two pounds and a half, which was enough to make us toss up our hat and almost embrace the little yellow pets (with judicious gentleness, of course).

A neighbor says the way we follow the bees across fields and through woods, and delve into the subject and remove obstructions, it is no wonder they get honey if it be on the face of the earth—and perhaps that is so.

But, look here, my dear reader, did you understand us to say that our bees were building *combs?* Not at all; "nary" comb will they build, with a few exceptions, and certainly none in those old-fashioned traps called boxes. It is this way. Where there are empty combs right above the brood, they will fill them with honey; as, for instance, in the upper story of the Langstroth hive. But they seldom put any honey in combs very far to one side; and hives that are full, or nearly so, do not increase in weight at all. So you see it all depends on having plenty of *empty* combs. We really think a few more just now would be worth a dollar apiece to us. A little feeding given just right will induce comb building, but *we* think not so as to pay.

The one stock that we weighed all through the season has now given us three hundred and thirty (330) pounds; and had it not been for replacing their queen, they would have done much better. Their new queen is nearly a black one, and so, also, are her workers; and, by the way, Mr. Editor, here lies a trouble. In slicing the heads off of all our drone brood this summer, we increased our yield of honey, which was all right. But we increased the yield also of new queens that produce black workers, or at least so nearly black that we have resolved to purchase twenty-five pure queens, to replace all that are not fully up to our ideas. It is true we might raise them, but at the prices at which they are now offered, we begin to think we had rather raise honey, and let some one who has more time or likes the bother better, raise queens. In making new swarms we have no trouble; but in raising surplus queens to replace others, etc., we have not made it go to suit us. We have made some experiments in artificial fertilization this fall, but have not succeeded. Queen nurseries and hatching queens in cages have also been an "unsuccessful bother" to us. We know we are but a poor novice, and should not expect to succeed always, but it does seem as if queens that do not lay, are rather a risky property to meddle with.

But there is one thing we do like, and find it a real pleasure, namely, to keep a *record.* Thus, we found sixty five stocks too many to remember all about, so we got a blank book with 150 pages (bear in mind it is a good idea to have a few extra pages, even if you are sure you *never will* want to use them). No. 1 hive is on page 1, No. 2 on page 2, and so on to the end of the chapter. Each page tells when the queen of the hive it refers to was hatched, whether pure or not, prolific or not; if weighed, how much honey produced; if queen to be replaced, how and when; and, in short, all about the hive.

Our hives, bees, and combs weigh about thirty pounds each, and before putting them into the house in November, we are going to make every one weigh over fifty pounds, and not more than fifty-five. Some might call twenty five pounds sealed honey (or nearly all sealed) not as well as more; but, as we winter them, we think more would be detrimental, and with us all the rest goes into the melextractor. Were it not for that same melextractor, we fear, or rather *feel sure.* we should not get any surplus honey at all now,

In our last article it read that we had sold all our honey at thirty cents a pound, which was a mistake that crept in somewhere. The honey was sold for thirty cents per pound retail; but the commission, freight, leakage, cost of boxes, labor, etc., made quite a hole in the thirty cents. In regard to saleableness, we have just shipped the last of our three tons, and think that we could sell almost any quantity.

As respects the source of the honey we get now, it is mainly from the same white-flowering plants sent you last fall, which are even thicker here this season than they were then. And, Mr. Editor, we really think that the more bees there are kept, the more honey plants will grow; for every blossom is most surely fertilized, and the result must be more and better seed.

For the first four years that we kept bees, we never found the hives to gain in weight after the first of August; and then we had only from four or five to twenty stocks. Sixty-five colonies is certainly nothing like overstocking, and we have no fear that one hundred would be in any danger if *well taken care of.*

We have found our bees also working so briskly, on what we call fireweed and common golden rod, that we have labelled the honey from

AUTUMN WILD FLOWERS.

It is dark and thick, but has a very pleasant flavor, something like humble-bee honey, as we mentioned last fall, and very different from either clover or basswood honey.

We have had no buckwheat nearer than two and a half miles, and we followed the bees one morning all the way there, as our wild flowers were not then in blossom. We think we can afford, next year, to give farmers within one and a half miles of us, a dollar per acre to raise buckwheat. It is true it might prove a failure, but we are used to failures occasionally.

Many thanks to Mr. Tillinghast, on page 63, and also to yourself, Mr. Editor. When we commenced here with bees, our locality certainly was called poor. Bees had ceased to pay, and were dying out; and had we not been so much discouraged by what bee-keepers told us, we should probably have commenced sooner. One man purchased a hundred stocks, but utterly played out the first year. Black bees are now increasing around us at quite a brisk rate; but that is about all they do.

Mr. Tillinghast says that amount of honey (5,000), in the time, in his locality, "is simply impossible." We think he would have done better to have said, *in his opinion*. We poor mortals very often have a very imperfect idea of what is possible. After the account was given in our county paper, that our bees were bringing in two hundred pounds of honey per day, and that one stock alone gathered forty-three pounds in three days, it was pronounced utterly impossible; and that if those who told it would consider, they would see that *it could not be!* And we were obliged to invite them publicly to come down and sit by one of our hives all day, weighing it at intervals, if nothing else would convince them, before they were still.

Counting the number of flower heads that a bee visits is a new idea to us; but we cannot think our bees visit more than a dozen certainly. One day in June, when we examined the red clover, we should think a bee would get a fair load from a single blossom; and many of them were working in the red clover at the time. The number stated seems as though the printer had made a mistake with the figures. Nearly ten blossoms in a minute for a whole hour, and not more than a load then! We agree that must be poor pasturage.

Nearly every year since we have kept bees has been called, by more or less unsuccessful ones, the "poorest" season ever known; yet, so far as honey is concerned, all *we* ask is—more *just like them.*

The only plant we have ever cultivated for bees is the Alsike clover, of which we have about half an acre, sown last spring on the snow, and which has bloomed quite profusely for the last six weeks, but is now nearly gone. We think our bees kept at least one sentinel to the *square foot* of it, to watch for the honey as it collected.

We had a visitor the other day (in fact, we have visitors by the score, and we are ashamed to say, to our sorrow sometimes). Well, this one for a while did not think proper to inform us whether he kept bees on the "brimstone plan" and came to convince us it was the best way, or whether he was the Editor of the BEE JOURNAL himself (of the latter we were very sure, as we think we should know *him* anywhere); but eventually he taught us some things, and we hope he learned some things from us. His visit did not last quite twenty-four hours, but he really made us feel quite lonely, for more than that length of time after he was gone. One simple thing, that Gallup has often said before, but we did not believe it, our visitor convinced us of—namely, that rotten wood is ahead of all tobacco, rags, or anything else, for subduing bees, especially hybrids, who will sometimes "fight till death" when tobacco is used, but would turn around and go down between the frames "without ever a word" under the influence of rotten wood smoke. But don't do as we did next day after he left us, and drop fire into the saw-dust. We burnt up a heavy two-story Langstroth of Italians before we discovered the muss, and the stream of melted wax and smoking honey that ran out in lava-like channels was a warning to all Novices.

And then we had some robbing at OUR house. We got about half a dozen frames of empty comb hastily put in a new hive, and removed the burnt one, and got the bees to bringing in the honey that had run out (they wouldn't eat melted wax); but before they had got it all done, there arose an "*on*pleasantness" as to *ownership* that finally mixed itself into a grand jubilee, in spite of Novice. The burnt hive is patched up, and the combs and bees are back into it, minus their queen, about forty pounds of honey, and ten frames of comb of such evenness and beauty, that some one (who wanted to pick a fuss) said we thought more of them than of our wife and family.

Our visitor aforementioned says he has never written but one article on bees, and we think that so richly deserves a place in the Journal, that we mail it to you.

And now, Mr. Editor, we would say before closing, that in our humble opinion, the results we have achieved this year, are no nearer what *may be* done in scientific bee-culture, than the old brimstone way is to our present method, and humbly beg to be still considered a

NOVICE.

[For the American Bee Journal.]

Bee-Culture in Cities.

MR. EDITOR:—According to promise I will try to answer the queries so often put in the JOURNAL:—"Are bees profitable?" and "Can bees be kept in cities?"

I have kept bees for the last three years on the roof of a two-story house in the city of Cincinnati, having kept bees before, when living on a farm. We did then about as well with them, as our neighbors did who also kept bees; but we were without the aid of the BEE JOURNAL, and kept our bees in common box hives—hence our doings could hardly be called bee-keeping.

Three years ago we took to the city the last hive which the moths had left us, built a platform on the roof of the house, and placed the hive thereon. It threw off a swarm in June following, and gave us some honey. In the fall I introduced an Italian queen in each colony. Two years ago I subscribed for the AMERICAN BEE JOURNAL, and transferred my bees into Langstroth hives. A year ago last spring I entered on the campaign with five colonies of bees—the two Italians in Langstroth hives, and three in Townley hives, having bought the latter. They produced during the season nearly five hundred pounds of honey, all in small frames weighing from one pound to one and a half pounds each; and the fall found me in possession of fifteen strong stands of bees, most of them Italians. On the fourth of June, 1869, I hived two second swarms, clustered together, from two of the Townley hives. After giving them an Italian queen and a full set of empty combs, they produced for me 138 lbs. of honey, the same season.

Last spring I had a first-rate honey slinger made by a brother bee-keeper in this city, and commenced the season with twenty colonies—fourteen of which were Italians or hybrid. As the bees commenced storing honey very early, my expectations were quite flattering, though I did not obtain as much honey as I anticipated. Several mistakes which I happened to make, account for this, in part; but my honey-harvest is respectable still. Here is a statement of it:

384	lbs. of	honey in frames.
1,350	"	machine strained honey.
23	"	beeswax.

As beeswax sells at the same price here that honey does, we may count it with the rest, and thus we have 1,757 lbs. as the product of twenty hives of bees in the city of Cincinnati. This certainly speaks well for our Italian bees, and for bee-keeping in a large city. My black bees have done well, but I think my Italians have given me nearly twice as much honey. Every one of my twenty colonies is now strong.

I was induced last month to make four more swarms, by taking from each hive about two frames with brood, honey, and adhering bees, and giving an Italian queen to each swarm. I have thus twenty-four Italian stands of bees, in a No. 1 condition.

Last year I wintered my bees on their summer stands, by leaving the honey board in its proper place and covering it with about half a dozen coffee bags or pieces of old carpet. I placed a smooth bag next to the board, to cover well the openings. This plan did very well. I did not lose a single colony, and intend to winter them the same way this year. In the earlier part of the winter I lost a great many bees, for the reason that I had neglected to cut winter passages through the combs. This having been done afterward, on the first mild day we had, my bees then got along first-rate. Before this was done, I sometimes found hundreds of bees dead in the cells on the outside of combs which separated them from the cluster—showing clearly the necessity of winter passages. Most of those parts of combs had already a putrid smell, and I thought it best to cut them out.

I have seen it stated several times that bees get irritated by tobacco smoke, and are more apt to sting for several days afterwards. This may be true of the black bees. They will bother me sometimes, in spite of my cigar. But I think those assertions are only made by non-smokers. All I want is a cigar, and I will open every one of my hives, take out every frame, and replace it every day for a week successively, without finding my bees any more angry at the end than they were at the beginning.

I learned how to open a hive from Mr. Gallup, through one of the numbers of our Bee Journal. I hardly blow any smoke at the bees, but over them; and I keep my cigar in the mouth, while Mr. Gallup keeps his pan with sawdust by his side, until the proper time arrives for the application of a little smoke. I think there are no more peaceable hives than mine in the country.

Now, Mr. Editor, I do not want to exhaust your patience, and wish you to make use of this, or of such portions only, as you may think proper. Charles F. Muth.

Cincinnati, Ohio, August 16, 1870.

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[For the American Bee Journal.]

The Looking Glass Again.

On page 67 of the last number of the Bee Journal, Ignoramus criticises my article on page 34 in regard to the looking glass, and says the glass has been tried three times this year to his knowledge, and three swarms of bees secured. But he gives us the particulars in only one case, and then guesses at my reply, which is perhaps correct; or the swarm may have had two or more young queens, and a small portion with one queen settled on one tree, while two or more queens with the larger portion of the swarm settled on another. After a few minutes, all these latter queens may have been simultaneously killed, and then the bees went to the other tree and joined the small portion with the one queen. As to the bees coming down to the ground, that is often the case. When a swarm issues, the bees are so full of honey that it is difficult for them to fly, and they often light to rest. I have often had swarms to settle in three or four places, though they had but one queen, remain for ten or fifteen minutes, and then all join the cluster with the queen. Just so with the old woman's bees. They may have just been in the act of going to join the cluster with the queen, when she saw them.

Ignoramus also tells us how to secure swarms with a *knot*. Well, sir, I have never tried the *knot*, but I have tried the *mullein* tops tied in a bunch and attached to a pole, &c., and also a piece of old black comb attached to the under side of an inverted bottom board swung to a pole, with cord and palley, to raise and lower, as the bees would rise or fall. But after trying both for a whole season, when I had more than a hundred swarms to issue without a bee lighting on either, I gave it up as a failure. I think it likely his knot theory will answer very well in a prairie country, or any place where there is nothing for the bees to light on. But where they are surrounded with as many shady fruit trees as mine are, they will mostly select a leafy branch to settle on. When I allowed my bees to swarm naturally, I had two-thirds of the swarms, or more, to settle on the under side of my grape arbor; which proves that they prefer a cool shady place to a bare pole with a knot on it.

Ignoramus says I remind him of an old Dutch lady, &c. Well, sir, I am like the Dutch in *one* respect; that is, I am in favor of progress; but I am not like the old Dutch lady you refer to, for I was persuaded by your suggestion to look again into the glass and well. Yesterday was a clear, bright sunshiny day. I took a glass some fifteen inches square, and just as Ignoramus said, I saw different from what I did on the other occasion. I saw the water in the well and my own *pretty* face in the glass—nothing more. I am now ready to try any other experiment that Ignoramus may suggest; but my opinion is, the better plan will be to throw aside the glass and make artificial swarms. Then there is no danger of any going off, besides being the fastest way of increasing bees, when the operator understands the principle well. But had I been wholly like the Dutch lady, I should never have succeeded in making artificial swarms. In my first efforts, I ruined dozens of swarms before I succeeded.

I am aware there is much yet to learn about bees, and my motto is to try and try again. So come along, Mr. Ignoramus, with your suggestions. If you do not teach me anything, you perhaps instruct somebody else, as there are many new beginners that read the Journal; and the Journal is the place to receive and impart bee knowledge.

H. Nesbit.

Cynthiana, Ky., Sept. 6, 1870.

[For the American Bee Journal.]

Great Number of Queen Cells and Queens Secured from One Hive.

Mr. Editor:—In volume 2, number 9, of the American Bee Journal, Mr. A. Grimm gives a case, under the above caption, of forty-three queen cells on one frame of comb. I have had two similar cases this season. The first one had twenty-eight cells on one frame; the other had forty-seven cells on one, and five on an adjoining frame—making fifty-two cells at one time, in one hive.

Early in the spring I experienced the greatest difficulty in getting my bees to start queen cells in full stocks. Having an extra choice queen, which I intended to raise from exclusively for the present; and not being willing to risk the loss of her in moving her from one stock to another, I adopted a different course. (By the way, I always start queen cells in full stocks—never in small nuclei.) I removed the hybrid queens from three strong stocks in succession, and in five days after their removal, I cut all the cells then started, and gave each stand a frame of brood and eggs from the choice stock. On opening those stands a few days after, to see what number of queen cells they had started, I was doomed to disappointment. The first one had only three cells, and two of these were built too close together to be separated. The other two stands did very little better. Getting tired of this slow process, I removed the queen from another strong hybrid stock; then exchanged the whole of the brood combs with the choice stock, brushing off the bees into their own hive. In this way I got some sixteen cells.

On the 6th of June two very large swarms got together. I divided and equalised them, and thinking each had a queen, I left them and went to other work. One of the queen's wings being cropped, I had put her on the cluster before the other swarm issued—the two stands sat about a rod apart. About an hour after this one of the stands became restless, the bees flying out and in, but neither going back to the old stand, nor to the one I had just separated them from; nor settling, either, except on the tops of the weeds and grass, two rods below the two stands, and under the limb they had swarmed on. It then occurred to me that the cropped queen might have dopped in the grass, and I started to look for her. But what a sight presented itself to my eyes—a great, big, long snake! No, not a snake, but a bee procession, a rod long and from three to five inches wide, travelling on foot, through the grass and weeds, to the nearest stand, headed by her majesty—who just entered the hive before I could seize and secure her. This was the stand from which I had just separated them an hour before. I then had my work to do over again, which I did in a few minutes, but got both queens in one hive, though I did not then know it. I had watched closely, and saw only one queen enter. By this time other swarms claimed my attention, so that I hastily took a frame of brood from another stand, and gave it to the one I was not certain had a queen—intending to give them one as soon as I ascertained it needed one. They went to work, as though all was right; and I paid no more attention to them till the second day after, when I opened the hive to examine. I found they were building straight and nice worker comb. I did not then raise the frame of brood, as the nice worker comb satisfied me that they had a queen; that is, according to the authority of book authors and others, that bees will never build worker comb without the presence of a queen. But here is an exception; and I have in my practice come across many exceptions to general rules, where bees are concerned. On the 19th this stand swarmed, and taking advantage of my dislike to work on Sundays, went to parts unknown, though I saw them go. I was then engaged in hiving four others, and they refused to await their turn to be waited on. Next morning early, I raised the brood comb already mentioned, and secured seventeen fine queens, counting twenty-eight perfect cells in all! The hive was about filled with comb, but only about one-third was drone comb—the rest being worker comb. Nothing ever puzzled me more than this case. I cannot account for it without going counter to the established rules, that bees without a queen will build drone comb exclusively. But, as I said above, this swarm was extra large, and having a frame of brood given them at the start, may have taken a notion to divide again, and so built worker comb while raising the queen cells. Or, will some one say the old queen was present. Well, if she was, why did the bees build about one-third drone comb? Will some one give us a similar case—such as a newly hived large swarm starting queen cells at once, while they have a queen. I am almost positively certain that they had no queen; yet there is much about the case that bothers or puzzles me. *A good job* for Gallup!

On the 27th of July, I removed a queen from a strong nucleus, to send her off. The nucleus hive was 12x12x18 inches, with three frames and partition board. It had been started with two frames, but an empty frame was afterward inserted in the middle, to give the bees more room to work. This frame they had filled out to within two inches of the bottom. I had disturbed the nucleus a few days before, to stimulate the queen to lay before removing her. In six days after her removal, on opening the nucleus, I found and counted forty-seven perfect cells, but saw none on either of the other frames; yet, while removing the cells on the 10th day, I found five more on one of the adjoining frames—making fifty-two (52) in all !

In conclusion, let me add that this has been lu a poor season here. I will get only about 500 pounds of honey, to Novice's 5,000. Hope he has filled his cistern by this time. But here I must close, as I have already wearied the patience of your readers. R. M. Argo.

Lowell, Ky., Aug. 12, 1870.

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[For the American Bee Journal.]

Bees in Iowa.

When the spring opened, it found me well prepared with *very* large colonies; but while they seemed to be doing all they could and working hard all the time, they used up all their stores, and I had to give the larger ones honey in the comb stored last year. Then while the fruit trees bloomed profusely, and when white clover had been in blossom a month, my bees had not capped—even in the largest colonies—a pound of honey, much less built any comb. Otherwise they did well.

In the winter I had thirty-five stocks. In January I smothered one, and in April three proved queenless, and two others were robbed; thus leaving me with twenty-nine. Since then I killed a drone layer, and in another hive the queen died and the bees had mostly *gone up* before I discovered their loss. I gave them queen cells, and as they hatched out a week ago, to-morrow I shall examine all my new swarms and see if any failed to secure a fertile queen or lost theirs. Thus you see I was reduced virtually to only twenty-seven stocks. Now, I have thirty-eight, and, with the exception of one, all are very populous.

As we have not had any rain here this spring, except one or two slight sprinklings, we are now threatened with drouth. Heavy dews and a clouded sky have saved us so far, but have kept the bees from flying a great deal. I shall not increase my stock any more till it rains, or honey becomes plenty again. From the hive that I have raising queen cells, I secured fifty in three weeks.

On the 11th of this month (June) I received an Italian queen from Mr. Charles Dadant. I was disappointed when I first saw her, as I had formed the opinion that the Italians were a larger bee than the blacks; yet there is not a worker in my hives that is not larger than those that came with the queen, and I am positive that I have black queens that are almost three times as heavy or large as the Italian queen I received. But the Italian is quicker than lightning and the workers are on guard the first in the morning and the last at night. I introduced her to the colony raising queen cells last Monday morning, giving the black queen to a queenless colony. I examined the hive containing the Italian this morning, and find that the swarming impulse is still on them, though the introduced queen is of this year's raising, as Mr. Dadant says, "she was born this year, 1870." On examination, I found twenty-five queen cells in the hive, ready for the egg, if the eggs are not already in them. It was too early and still too dark, being "before sun rise," for me to make out if any eggs were laid in the cells. When I removed the black queen, I destroyed even the old queen cell foundations, so you see my mode is not theory but fact. As fast as the queen cells are capped, I shall remove a black queen from a colony and give it two queen cells, to make sure of one, till all have been changed to Italians. Next year, when I shall have none but Italian drones, I will easily secure pure Italian stock.

J. M. Price.

Buffalo Grove, Iowa, June 20.

* * *

[For the American Bee Journal.]

The Honey Season in Jasper County, Iowa.

Mr. Editor:—This has been a somewhat poor honey season in this locality, owing to the dry weather. The month of March was pleasant and warm for the season. At the close of the month there was brood in the combs in most colonies. April was less favorable. The month was cold, and at its close there was less brood in many colonies, than there was at its commencement. May was warmer again, and the bees commenced gathering pollen early in the month. Breeding was extensively resumed, and towards the last of the month, the bees stored some honey. Most of the hives were strong and apparently in good condition to be divided; yet a division at this time, or in fact at any time during the season, would have proved injurious to many, if not entirely ruinous to some of the divided colonies. Honey gathering ceased with the failure of the fruit blossoms. No more honey was gathered until the last of June. Through the middle of that month most stocks were nearly destitute of honey, and the drones in most colonies were killed off. The slaughter was pretty general. About the last of June the bees commenced gathering honey again, and for nearly three weeks it was stored quite freely. Towards the end of July the honey harvest ceased, and from that time till within the last few days bees gathered no honey.

As a whole, the season has been a poor one. Very few stocks swarmed—especially of natives. The Italians have done better, those at least that were rightly managed. In the spring I placed twenty-eight (28) colonies on their stands, all of which had been wintered in a dark cellar. These I have doubled by artificial swarming, except three natural ones.

I drew and started up twenty-five (25) nuclei, for queen raising purposes, and *kept them up*. This I have done, while my neighbors did not get either swarms or honey; yet I do not think I have any colonies but what will be in good condition for wintering, at the close of the season.

Enclosed please find four dollars, for which send two copies of your valuable Journal, addressed as below. Success to the Journal.

Monroe, Iowa. J. W. Seay.

[For the American Bee Journal.]

Introduction of Unimpregnated Queens.

That the introduction of unfecundated queens should be so often spoken of, and that too by some of our experienced bee-keepers, as a matter of much difficulty, is a question to me almost incomprehensible. In the hands of the inexperienced, or of those ignorant of the first principles of success, a few failures ought not to be wondered at. But for those having a knowledge of the prerequisites for the acceptance of a stranger queen by a colony of bees, to talk of the safe introduction of unimpregnated queens, as an act of uncertainty, induces me to believe that they have either not experimented at all on this part of practical bee-culture, or else did so to little profit.

If it be true, as has been asserted time and again in the BEE JOURNAL, that the only means the bees have of recognizing strangers, is by the sense of smell, it stands to reason that, if a stranger queen be confined in a hive long enough to acquire the scent of the hive, the bees will immediately accept her as their own, especially if they have no young queens in process of rearing.

Acting upon this principle the past summer, I confined my young queens in small wire cages, and inserted them as near as I could in the centre of the hive; at the same time taking the precaution to provide them with food during their confinement. The result was that out of a goodly number of unimpregnated queens, introduced in swarming time, not one was lost. We have also succeeded admirably in introducing them, by scenting both queen and bees with some liquid having a peculiar scent. By either method, we regard the safe introduction of a queen bee, whether fertile or not, as a matter of certainty: where the queens themselves are kept from starving by proper feeding.

We permitted natural swarming to some extent this summer, in order to get hardy and prolific queens. As we will break up a number of after-swarms this fall, which were unfortunate in coming late, we shall be able to furnish some who prefer tested queens to all others, with a number of finely colored queens raised in natural swarms, cheap for cash.

J. L. McLEAN.

Richmond, Jeff. Co., Ohio.

[For the American Bee Journal.]

Introducing Queens.

As an introducer of queens I have not been always successful. In several cases, after two or three days caging, the queen has been accepted all right, and within twenty-four hours rejected. I watched one of these cases, in which the queen, when liberated from the cage, was caressed by the bees, until by and by one of a different mind (and of a different body, too; for I have noticed the first to attack a queen are the small-bodied fellows) assailed her, and very shortly was joined by others, until a mass imprisoned her.

With Mrs. Tupper's favorite method I have sometimes succeeded, and sometimes failed; but then the fault may have been all my own. I have half drowned bees, queen and all, with diluted honey strongly scented with peppermint, and had the pleasure of seeing the drunken fools fondle her as if they had always known her; and then some one of the number, not fully saturated, would attack her.

Latterly, I have taken a different plan, and one which, according to all the authorities ought uniformly to fail; but which, so far, has uniformly succeeded here. It is simply this:

Wait until the bees have started queen cells. Then, without any preparation whatever, put any queen, fertile or unfertile, directly on the comb, among the bees. That is all.

It may be that I shall fail the very next time; but, until I do fail, I shall continue to practice this plan. I give it to the Journal, in hopes that some one else, having a queen or queens of no value, will give it a trial. I have not tried it long enough to consider it a settled thing; but shall report to the Journal the first case of failure. Let me relate a case of success:

August 1st, I put into an empty hive, No. 15, one frame containing some honey and a very few cells of *sealed* brood. I put into this hive a young queen that had just commenced laying, and set the hive in place of one containing a strong colony. Of course the empty hive received all the flying force of the strong colony. On the next day they had destroyed the queen. I then took a queen two or three years old, covered her with honey completely, and dropped her on the frames. She was received all right. Next day, August 3d, I killed this queen and introduced a *young* one in exactly the same manner. She was promptly imprisoned, and I released and caged her. August 5th, this queen having been caged two days, is still refused. August 6th, she is caressed by some of the bees, but others imprison her. I then gave her to a full colony, No. 1, which was queenless and had queen cells started, some of which were sealed. Placing her directly on the comb, without caging, she was kindly received and soon commenced laying. I then took from No. 1, the frame with queen cells, and gave it to No. 15. Three days later, August 9th, I gave to No. 15, an unfertile queen three days old, placing her directly on the comb. On the same day I gave another full colony, having queen cells only a day or two old, an unfertile queen three days old. Being out of the State I did not see them again till August 22d, when I found both queens laying.

C. C. MILLER.

Marengo, Ill., Aug. 30, 1870.

The smell of their own poison produces a very irritating effect upon bees. A small portion offered to them on a stick, will excite their anger.

After a swarm of bees is once lodged in their new hive, they ought by all means be allowed to carry on their operations, for some time, without interruption.

[For the American Bee Journal.]

Bee-culture, Honey Products, Honey Markets, &c.

Mr. Editor :—I herewith send you two dollars as a further fee of incorporation in the bee family. I have profited well by it this year. I was absent on a tour in Europe last spring. On my return I found my bees in poor condition. Two colonies had died from dysentery or the warmth of the bee cellar ; and of the remaining sixteen stocks, two were very weak, with some others in prime order. I had but two Italian stocks left. As far as my experience goes, I must give three cheers for the Italians. The earliest natural swarm I got here from blacks was on the 17th of June. This year my first Italian swarm came off on the 13th of May. The parent stock was a good one, though I cannot set it down as my best in number of bees. I had black colonies that were more populous. As for this Italian, it yielded me fourteen natural swarms, four of which left for the woods and the remaining ten are in extra condition for wintering. The parent hive and the first swarm are the heaviest stocks in my apiary. I shall Italianize all my colonies this fall. No man will ever persuade me that black bees are as good. I shall always consider such men as jealous or prejudiced. The advantages derived from Italian bees are well worth paying for—their early swarming and their rapid breeding are sufficient compensation. The color of the queen, too, is a great advantage when looking for her in the crowd on the comb, and her superior fertility is an unquestionable fact. The fourth swarm came off in May. It was small ; but as it had a beautiful Italian queen, I put it in a box hive, and today it has nearly filled a twenty pound box. The season from the beginning of May to the middle of July was very good. My hives were so full of honey that no empty cells were to be seen. I have brought up the number of my colonies to forty-five, and four swarms left for the woods; and thus far I have sold seven hundred (700) pounds of honey.

According to the Report of the Commissioner of Agriculture, there are between 70,000 and 100,000 bee-keepers in this country. If so, the number who subscribe for the Bee Journal is comparatively small. Why is this so? According to my observation and experience there are two reasons. First, because the population of this republic is largely composed of emigrants from all nations, and although they and their immediate descendants may speak and understand English, yet they are not able to read or write it readily. Every one sticks more or less to his native language, and prefers reading newspapers printed in that language, because he understands it best. The second reason or cause is jealousy. It is a fact well known to every bee-keeper away from large cities, that the sale of honey is very slow in small cities and towns; and it is often impossible to sell at a remunerating price. Thus, for instance, Green Bay is a city of 8,000 inhabitants; yet one bee-keeper with 100 hives can fully supply the annual market of that city in a good year. It is of vastly more importance to write on this subject and induce an extension of the market demand for honey, than to teach fertilization by one or more drones. Bee keeping is now very profitable—more so than is acknowledged in print; but men have a disposition to keep the thing to themselves. It is very often the case that a bee-keeper instructs his neighbors in the art of managing bees successfully and profitably, and as soon as these are well posted in the business, they become a source of annoyance, contempt, and jealousy to their instructors. This makes it the more necessary to make more extensively known the best honey markets that are now to be found, and any additional outlets and uses for honey that may be opened or devised. In France enormous quantities of honey are used in the fabrication of honey bread, called *pain d'epice*. I wish our friend C. Dadant would give us a receipt how to make the best kind. This might become an American institution as well as a French one. The reputation of this delicacy is world-wide, as well as that of the French wines so much liked here. Vinegar also is said to be of superior quality, when made in a perfect way from honey. I should be glad to obtain some reliable information as to the *best* kind of it. Much honey is spoiled, as many other things are also, by using it when not properly prepared. Let us have the true results of experience. Another matter, not less important, is the preparation of good mead. A bottle of good mead is equal to the best wine ; women in confinement use it in preference to wine, and with far more benefit. I think mead can be made as cheap as, or cheaper than whiskey. Good fermented mead ought to be sold in all wine stores for medicinal purposes and other uses. It is used in Belgium extensively as a summer drink.

BEE HOUSE.

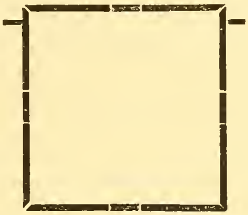
I am going to build me a bee house of cedar logs, twenty feet by sixteen inside, stuffed with one foot of saw-dust; and I wish to know how I can give the greatest amount of ventilation in winter, without light. I want the largest amount of ventilation, combined with the largest amount of darkness ; and desire to know where and how to place the ventilators, and of what material these should be made—whether of wood, iron, or lead? If possible, let us have a sketch or side view. Did I not fear that Novice was drowned in honey, I would ask him to have the kindness to furnish the information according to his experience. Perhaps we should send in contributions to the editor to offer a premium for a design for the best bee-wintering house, to contain a hundred hives as described above. Bee-wintering is one of the most important points in bee-culture now, and bee-keepers could well afford to contribute towards procuring the best plan of a house.

Now, dear editor, although a passenger in the sleeping car, I am for progress. Thirteen swarms from one—say one brought up to fourteen, is a true American fact. If I had set the fourteen in four hives, with ample space for boxes, it would have been a pity for my blacks to compare results. I drummed out my old hive and first swarm, and cut three pails of honey out of them. Then I returned the bees, and the gaps are again nearly closed. I wish now to say

SOMETHING ON HIVES.

Last year I made me three Price hives according to Vol. IV., page 87. On inspecting my hives, after the bees had been put in, I found in the first one all its frames lodged on one side. To obviate this, I drove small tack-nails on top sidewards, to hold the frames at proper distance apart; but this does not do. In lifting out the frames I slightly damaged brood and honey. The second hive was in order, but the combs very uneven. The third had its combs straight every time, impossible to be otherwise down to the middle; but from the middle corners down to the lower corner they were fastened together and all gone astray. Further, the crushing of bees by the honey-board annoyed me much. They are so very heavy and troublesome to handle, that I have broken up the whole concern.

Now, I have constructed a hive on the Gallup pattern, say one foot square, and use twelve frames in it. This is what I like. My combs are as straight as a piece of board, and very easy to handle. I shall stick to it. But, dear editor, I fear I have infringed on some one's patent, and I do not like others to do the thinking, and myself to reap the harvest—which is about as criminal as stealing another man's brains. The question is: whom have I to pay? My frames are made thus:



They hang on a rabbet, suspended by half an inch of iron wire, the thickness of an ordinary lead pencil. They are very easy to take out, and are never gummed fast. Now, do you not think I have infringed the Langstroth principle? If so, please inform me. My frames are three-quarters of an inch thick, and are very strong. I have had much trouble with frames as commonly made, when filled with honey. They are then too weak.

Finally, I have constructed

A HONEY MACHINE

according to Mr. Hubbard's description. I had not the slightest trouble in making it. My can of zinc, eighteen inches in diameter and twenty inches high; cost three dollars. The iron wire cost one dollar, but I had more than enough. The whole cost was less than five dollars. I used the crank of a fanning-mill, to see what effect it would have, but found it too long. I was compelled to turn it with a peg half way down, which is just the thing. I can turn it as rapidly as wanted—so rapid, indeed, that the larvæ would be thrown out. I shall use no gearing. I found the machine all that could be desired, and only regret that I had it not in June. The queens might have produced some thousands of pets more, if empty cells had been provided for them. Now, something about

STRONG STOCKS.

Novice says if we are well-rooted anywhere it is in *strong stocks*. This, I find, is a very indefinite saying. I wish some one would give me a clear idea of what is meant by the expression *strong stocks*. Is it a large, prime swarm, or a first and a second swarm united, or any swarm well wintered and built up by spring feeding on Gallup's system?

Ah, indeed, N. Woodworth, of Rochester, Wisconsin, on page 47, Vol. VI., has thrown a skunk in the face of the bee family. A skunk cannot stink more than that statement. Surely, he designs to see what effect it will have. Well, the best way is to let the skunk alone. The meanest bee-gum bee-keeper who manages to winter his bees so that they do not all die, has to acknowledge that bee-keeping pays; how much more can one accomplish who knows how to employ skilfully scientific means and methods?

JOSEPH DUFFELER.

Rousseau, Wis., August 26.

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[For the American Bee Journal.]

Queen-Breeding for Improvement of Race.

Mr. Editor:—In the September number of your excellent Journal, page 58, Mr. Alley accuses the writer of "pitching into him." But I find he can still hold up his head and "pitch" back, as well as raise cheap queens; so he is not badly wounded. But, to be serious, I most sincerely regret that any sentence in my article, in the August number, was so worded that it was thought to be personal. It has been a favorite project with me to see the honey bee improved to its highest possible extent. And even Mr. Alley concedes the principle for which I contend. For, says he, "*I pay the highest prices for my breeding queens, and now have queens of my own raising that I would not sell for fifty dollars.*" This is a higher price than I proposed for such queens, five or six times over. He says he will take my whole lot at my figures, if I have such queens as I describe. I would not like to spare them, Mr. Alley, for I value them as highly as you do *your* best queens!

I do not doubt that every man who gets a queen from Mr. Alley, or from any other man who sends the genuine breed, gets the worth of his money; but what I did mean to say, was, that if a man wishes to get the highest grade of Italians, let him get one that has been raised from the best selected stock, under the eye of an experienced apiarian, and thoroughly tested before she is used as a breeder. Then the buyer will know what he is getting, and would find his purchase cheap at twenty dollars—rather than one that was untested and raised at haphazard, at two dollars and a half.

I repeat—Let the Queen-Raising Brotherhood unite to state these facts fairly and squarely before the world; and let men who believe in sharp practice keep such things out of sight.

I, too, if ever I go into the business again, will sell queens at $2.50, sending them out as soon as they begin to lay eggs, to any number ordered, guaranteeing that all the workers shall show three yellow bands, when filled with honey. But, if tested and guaranteed as breeders, I would ask ten dollars each. If I was going to commence Italianizing an apiary, I would send to some responsible man, such as Langstroth, Colvin, Quinby, Gallup, Mrs. Tupper, or Mr. Alley; and in the room of sending $2.50, I would say, "fix your own price, but send me the best queen you can select!" for I would rather have such a one than four of average untested queens. And putting the seller upon his honor, I think I should get the *best*, where all were good.

Others may differ from me in opinion, yet I have given the public my views honestly.

Mr. George C. Silsby has my thanks for his courteous criticism of my article. Mr. J. E. Pond likewise, though he misapprehends my intention to attack any one but sharpers, who sell for pure Italians what no one, qualified to judge, would call even a good hybrid. I know nothing of Mr. Alley only through his advertisement, and of course knew nothing of the quality of his bees. But while I know nothing of him, I do know men who sent to where it was most convenient and cheapest, and straightway they became queen-breeders, and supplied the country round, in turn, with *genuine queens*. It would take an expert often, to detect a particle of Italian breed in many such colonies that I know of.

In such cases, often, the queen-breeder himself did not know that he was selling a spurious article. I may have been foolish, but I did send to Italy for stock that cost me twenty dollars each, when I could have procured stock from Mr Langstroth for five dollars each. The same year I procured a queen from Mr. Colvin for fifteen dollars, tested, in preference; and the very next year I sent fifteen dollars to Mr. Langstroth, for a tested and superior queen, when he would have sold me an untested one for half the money. I think still that the money was well invested.

Two years ago I left the personal supervision of queen raising, and a gentleman by the name of J. L. Strong is now conducting the same apiary, at Mount Pleasant, Iowa. He has not been able to supply all his orders this season. My articles were dated from that place; but my residence is at Ottumwa, Iowa, where I am trying to fill the place of pastor of one of the Methodist Episcopal Churches of that city. I have raised just *four* queens this season, one of which was a hybrid. These I have used in making new swarms. I have five colonies here, which still interest me greatly, although there are not many dollars and cents, as income, in the enterprise, and I take all the profits in honey for my table. So you see I am not a very formidable rival in the trade.

But, in common with the brotherhood, "*bee on the brain*," is a chronic complaint with me, and I never shall recover from it; and every man who talks *bees*, or writes *bees*, or *raises queen bees for* $2.50, or any other price, has traits that make me regard him as a *brother*. And if I write an occasional article, don't think I am "pitching into" some one, or writing to "show off." Then, further, if you find my articles only half as interesting to you, as yours are to me, I shall be content. In the meantime let us raise no false expectations; but so write that we can put in the hands of the cottager, occupying a few square roods, the means of keeping, in an intelligent manner, from twenty to one hundred colonies that shall bring him as much profit as the owner of a farm reaps from his broad acres.

Ottumwa, Iowa. E. L. BRIGGS.

[For the American Bee Journal.]

The Economic Hive, and Gallup's.

MR. EDITOR (and some one says that means everybody):—As I receive many letters asking what I think of the Economic Hive, mentioned and described in several numbers of the last volume of the Journal, suppose you allow me to answer them at once through the pages of the Journal. It will save me much trouble, and obviate the necessity of replying to the same questions asked over and over again, by different inquirers. Another matter I would like to speak about. I receive a great many inquiries somewhat like this—"Mr. Gallup, I am a new subscriber to the American Bee Journal." &c., &c., and asking me for information about such and such articles, or what does such or such a writer mean, &c. Now, gentlemen, I am perfectly willing to answer your questions, but it appears to me that your very best plan would be to send the money to the publisher, and get the back numbers of the Journal. You would certainly get the worth of your money; and then you can understand what the writers mean, better than I can tell you in one short letter.

Well, here I am off the track, as sure as fate. To return; in the first place, the Economic Hive and the hive I use, are (with slight variation) substantially the same. Both can be used in the same manner, in every respect. I have used them with from ten to fifteen frames, but for general use, twelve are sufficient. All it needs is to make the hive wider or narrower, to accommodate more or less frames. In using my hive two story, I make the second story the same depth as the first. My frames hang on small three-cornered cleats instead of on rabbetings; and to make any hive into a second story box, draw the small finishing nails out of the cleats and nail them on again, low enough down to allow one-fourth of an inch space between the upper frames and the lower, without the honey-board. Now, all that is necessary to convert this into two hives, is to move those cleats back to their former places again. In placing this top box on and lowering the cleats, it leaves an inch and a quarter space between the top of the lower frames and the honey-board. Now drive four finishing nails into the sides of the hive, inside, leaving the heads project one-fourth of an inch above the frames. Then fit in an inch board and let it rest on those projecting nails. This will fill up so much of the vacant space under the honey-board.—In putting on the third story, I make my boxes so as to fit inside the hive, *on the frames*, and do not use the honey-board between the boxes and hive in any case. This third story is only used with very strong stocks.

Once more, I will say that this hive suits me, and can be used for every purpose, in forming nuclei You can raise four queens in it, as Mr. Truesdell says, and by inserting three division boards you can make it into four small hives. The entrance on the four sides of the hive are all in the bottom board. It can be accommodated to any size of swarm, simply by using the division boards, or not, as the case requires. In short, read what Mr. Truesdell says about the hive, and also what I have previously said about it; and then read what I say in the "Annals of Bee-culture for 1870" (when it comes out) about the best method of having honey stored in combs for market—decidedly the best, in my opinion; better than any glass boxes I ever saw. In such a hive you have one adapted either to a poor honey district, or to a good one. It will accommodate the largest, as well as the smallest swarm you ever saw. It is cheap and simple. Understand, I am not cracking up this hive to make money out of it, for it is not patented, and I have no time to make any to sell.

Orchard, Iowa. E. GALLUP.

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[For the American Bee Journal.]

The Gallup Hive.

I wonder sometimes how many bee-keepers have tried the Gallup Hive, there being so many other hives that are so highly recommended. I have made and used, now for two seasons, more than a dozen of the Gallup form of hive; and thus far I think it is good for all that Gallup claims for it. Simple in its construction, easily and cheaply made, and for one, I cannot conceive how any hive could be better adapted or more convenient to form nuclei with full sized combs, to raise queens, to equalize bees and stores, build up stocks, exchange combs promiscuously from hive to hive, &c., &c. No trouble about the frames hanging true, and I think I can handle a set of frames in the Gallup form of hive in as short a time as I can in the Langstroth standard; and I am using both. If the several parts of the Gallup hive are correctly made and put in place, it is almost air-tight; and yet any amount of air, whether much or little, can be given and regulated, even to the extent of suspending the hive in mid-air, with top and bottom off, if it were necessary. Its surplus honey arrangement can be made to suit location or fancy. I do not suppose that Novice or Grimm, or some others, would do any better by using the Gallup hive; but my circumstances are very different from theirs. And as it is of the utmost importance to me to use only one kind of hive, I intend to use the Gallup form exclusively as soon as I can, without material loss.

HENRY CRIST.

Lake P. O., O., Sept. 7, 1870.

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Those that boast most, fail most, for deeds are tongue-tied.

[For the American Bee Journal.]

Palmer Brothers and the Thomas Hive.

It is due to myself and to Palmer Brothers to say that their article, so greatly in favor of my hive, was written without my knowledge and entirely upon their own responsibility.

While I feel grateful to them for their high opinion of my hive, and the impartial manner in which they have spoken of it, I may be allowed to correct two or three items in the description thereof. They have purchased the territory for these hives before the alterations of which I am about to speak were made.

"*Advantage 8th*" (see BEE JOURNAL, Vol. VI., No. 2, Aug. 1870.) "There is a passage through the bottom board, covered with wire cloth, through which the bees receive air," &c. After five years' experience and experimenting with the hive and the best method of ventilating, I now make the bottom board without any hole through it, preferring instead to put a hole through the rear end board of the hive, about one inch from the bottom, and covered with wire cloth. The hole is an inch and a half in diameter, and allows a circulation of air from front to rear. I consider this the best method of ventilating a hive, and in most, if not all cases, quite sufficient, and especially so with an entrance such as I use in my hive, and with which Palmer Brothers were not acquainted for reasons already stated. I will just say the entrance is so constructed, with a double zinc gauge, that it can be enlarged in a moment of time to half an inch deep and the full width of the hive, and contracted in the same time to half an inch square.

"*Advantage 16th.* The bottom slants to the front." It may be made inclined or level, as desired by the builder.

"*Advantage 18th.* One, two, or four boxes may be used." Six square boxes, suitable for market, may be used.

"*Disadvantage 3d.* The improvements are worse than useless, to one who will not properly use them." This is true of all frame hives. If a bee-keeper intends to let his bees die, with no attention on his part, he certainly will save the expense of improvements by setting them in a hollow log.

To those parties who may purchase territory I will send a sample hive, paying all charges to the line. See advertisement, and make an offer.

J. H. THOMAS.

Brooklin, Ontario.

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[For the American Bee Journal.]

Bee Cholera.

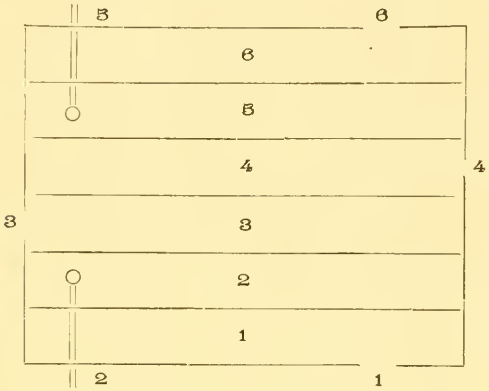
MR. EDITOR:—I see that many persons have lost their bees by what is called Bee Cholera. I have had some bees die with the same disease. I then took a colony after one half the bees were dead, ventilated the hive well, and carried it into the stove room, and kept it there the space of eight days. It is now a strong colony. I suppose the heat of the room evaporated some of the water in the honey. B. R. HOPKINS.

Tyrone, Pa.

[For the American Bee Journal.]

Hive for Nuclei.

The experience of a single season satisfies me well with a hive for nuclei, made by simply taking the ordinary Langstroth hive, separating it into six compartments, and making the entrances face in different directions, in this manner:



Nos. 1 and 6 have the entrances at the back end of the sides, at the upper corner. Nos. 2 and 5 have a hole bored through the bottom, and the bottom board channelled, making the entrances come out underneath the front end of the sides at the *lower* corner. The entrance of No. 3 is in front, at the regular entrance; and No. 4 has an entrance at the back end.

"But will not the queens enter the wrong compartment, on returning from their excursions?" I have raised fifteen or twenty in a hive of this kind, and have never lost any.

Instead of a honey board, a strip of board covers each division separately, so that each nucleus can be examined without disturbing the others.

The ordinary frame is used, and the principal advantage of the hive consists in the mutual warmth gained.

I think it pays to keep reserve queens constantly on hand; and I mean to try whether I cannot winter a few queens in this way.

I have raised some queens by letting the nucleus have brood to start queen cells from; but they have been slow coming to maturity; and after they have laid a few eggs, they are sometimes discarded and a young queen raised from the brood. The trouble seems to be that where queen cells are started by a small cluster of bees, they do not feed the grubs plentifully enough, and when the queen hatches out not a particle of royal jelly is found in the cell. Whereas, when a strong colony raises a queen, the cell will contain a large quantity of jelly after the young queen emerges. To obtain good queens, I take the following plan. I take a frame containing only eggs laid by my best queen, and put it into an empty hive, and set this in the place of a strong colony. Cells will be started and the grubs liberally fed, and as soon as they are sealed over, I cut them out and give them to the nuclei. I then give the hive a laying queen, and two or more frames of sealed brood, according to the time of year, and have a good colony.

I am waiting patiently for Novice to invent a machine for making straight worker comb; for as yet I have found no way of securing all worker comb, except to have it built by a weak colony. My bees build some drone comb of very strong, even if their queen is not a month old; and they will build worker comb, *whilst raising queens*, if WEAK ENOUGH.

C. C. Miller.

Marengo, Ill., Aug. 30, 1870.

[For the American Bee Journal.]

Around among Apiaries.

Mr. Editor:—As I have been visiting among bee-keeping friends, I will give you a few lines that may interest some of your readers. The season here has been very variable in the yield of honey from the clover blossoms and also from honey dew.

I made a short visit to Hess & Co.'s apiary, some ten miles from Fulton, on the Iowa side of the Mississippi, who have about one hundred and eighty colonies. Their bees did not yield much white clover or basswood honey, but did well on honey dew. The honey from the latter is very dark and sticky, and to most persons is of poor flavor. Their bees did not swarm much this season, though they are surrounded with all the early flowering trees, such as soft maple and hard elm, willow, and all other kinds natural to our soil, alike on the islands, bottoms, and uplands.

I next visited Marvin & Bros., of St. Charles, Ill. Their apiary numbers one hundred and seventy-five to two hundred stocks. Their bees have not done anything to speak of, and from appearance and prospects, they will have to be fed to go through the winter. There was hardly any rain here from the last of March to the last of June. White clover blossomed very little, and Alsike was almost a failure from the drouth. It did not grow tall enough to be cut for seed, where it did come into bloom. But Messrs. Marvin are not discouraged. They think there is a good time coming yet for bees, though it be not this season. They have some of the great Rocky Mountain bee plant growing, but it has not done anything for them since they have had it. It is now in full bloom, yet very seldom a bee lights on it.

I also made a brief call on M. M. Baldridge, the secretary of the great National Bee Hive Company, at St. Charles. His bees will likewise have to be fed, to go safely through the winter, if fall pasturage do not supply sufficient honey for their need. Mr. Baldridge is doing a considerable business in manufacturing honey emptying machines, now that the demand for beehives is over for this year.

I next visited Mr. Thompson, of Geneva. He is young in the bee business, but quite enthusiastic. Although he lost all his bees last winter, he was not discouraged, but tried again this season.

Like most new beginners, he increased his stock rather too rapidly, especially in so poor a season as this has proved to be in that section generally. Bees, however, did somewhat better at Geneva than at St. Charles, only two miles away. At Batavia, the same distance below, the bees have done moderately well. Let me remark here that the rains, throughout the West, for the most part went in narrow streaks this season, especially in June, sometimes not over half a mile wide. This accounts for the difference in the condition of colonies in apiaries only a few miles apart.

I called on Mr. Way, at Batavia, and took a look at his bees and honey. He has a good supply of surplus white clover honey on hand, having been fortunate enough to be within the range of one of the seasonable rain streaks. The most of his colonies have honey enough to pass the winter safely, if they should not be able to gather any more. I was told that the good people of Batavia tried to get friend Way's bees expelled from the city limits, as a nuisance, for fear they might possibly sting somebody !

AMONG THE HONEY DEALERS OF CHICAGO.

I do not think that the largest honey dealer in Chicago is doing the fair thing by his patrons—that is, if he wishes to do a permanent business and retain his best customers. He would rather buy honey in large boxes and frames, and then cut it into three or four small strips, put it in glass jars, and fill up the jars with inferior strained or Cuba honey. At the same time he discourages the bee-keepers from taking their honey from the combs with the melextractor, for the simple reason, I suppose, that he can make more money by straining the honey himself, as I was told he had a nice steam apparatus for fixing over strained honey.

As to the commission men, there are not many of them to be trusted, as it is seldom that honey is handled with the care it ought to receive; and when it gets to leaking, they sell it for any price they can get, in order to be rid of it.

There is a great fault, too, in the manner of shipping it, to have it go through in good shape, as the railroad men do not handle things very carefully. To get the best price from honest dealers, the box honey must be put up in neat, small boxes, weighing not over seven pounds gross; and to get a market established for extracted honey, it should be shipped to some reliable man; and the jars must be labelled with the quality of the honey and the name of the producer. Then the agent can recommend it to his customers, and warrant it pure; and all you have should be shipped exclusively to him. When properly put up, I do not think there is much to be feared from adulteration.

Fulton, Ill., Sept. 5, 1870. X.

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A good swarm of bees, put in a diminutive hive, in a good season, may be compared to a powerful team of horses harnessed to a baby wagon, or a noble fall of water wasted in turning a petty water-wheel.—*Langstroth.*

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Narrow minds think nothing right that is above their own capacity.

[For the American Bee Journal.]

Queen Raising.—Experience and Observations.

Too early last spring, I commenced by artificial means to raise queen bees. Using only about a pint of bees, they became chilled during the night, and would cluster in the corner or top of the hive, deserting the larvæ and the unhatched young. This was in March. During the latter part of the month of April, however, I succeeded admirably in hatching them ; but two-thirds were lost on their wedding tours.

I had as many as six queen cells which were *to hatch* on a certain day. I was not at home on that day, but returned late in the evening, and on examining No. 1 (a full colony), I found the queen had just emerged, the cap or end of the cell still clinging by a small particle of wax, and the queen on the same frame within a few inches of the cell. No. 2 had also hatched during the day, appearing to be a few hours older. No. 3 was then visited, which was in a nucleus, and I found only two worker bees in the hive,—the queen cell being still perfect. I had the evening before given this nucleus some strained honey, in a bungling manner, and did not contract the entrance of the hive as I should have done, and they were robbed. My wife, early in the morning, noticed unusual activity at this hive. The little family, I suppose, had helped to remove their limited stores to the hives of the robbers, and taken up their abode there, as usually occurs in such cases. But, to return to our queen cell, I removed it carefully and opened the end of it, when, to my surprise, out crawled the queen on my hand. Some honey was given to her, and in a few minutes she was quite lively. She was then introduced to a queenless colony, and was well received ; but was lost on going out on the eighth day. No. 4 was not examined until the next day, when a nice Italian queen was moving amongst the workers ; with as much dignity as belongs to one not yet having attained her majority. After an interval of about three days, I examined the hive and saw the queen every day until about the eighth, when late in the evening, after sunset, on examination I found she was gone. On closing the hive the bees came running out and showed all the signs of having recently lost their queen, such as are often seen ; and kept up that distressing search by crawling over the hive and on the ground in its immediate vicinity until after dark. The hive was again examined with great scrutiny on the following morning, and she was not there. At eleven o'clock a natural first swarm issued from a hive of native brown bees in the apiary, and after flying around five minutes, clustered on the stem and at the root of a cherry tree. I proceeded to hive them, and when half the swarm had passed into the hive, I saw the black queen march in. Only a few minutes more elapsed before all the bees had gone in, except a little ball or lump the size of a partridge egg near the root of the tree. I stirred them up with a stick, thinking they were not cognizant of the fact that their queen had gone in and the house was prepared and ready for them ; but they had no disposition to disengage themselves. Taking the ball of bees in my hand, I examined them and found they were clumped around my lost Italian queen. I dropped them in a pan of water, when every one let go its hold, and the queen was free and apparently unharmed. I returned her from whence she came, and in a few minutes the grieved family were buzzing their joyful wings at her return. In a subsequent examination on that day, she was crushed between two frames. The question arises, how she came to be with this native colony? I have my surmises, but will leave others to judge for themselves.

My experience has been that more Italian queens get lost in their attempts to meet the drones, than native black or brown queens. Of the superiority of the Italian or Ligurian workers, of their disposition, as well as that of the hybrids, I will speak at some other time. Did it ever occur to you, if the yellow-bearded Italians were natives of our country, and we had been used to looking at them all our lives, and the black were now just discovered and introduced, what praises would be heaped upon the *dub* tails? Campbell uttered a truism when he said—"'Tis distance lends enchantment to the view." But do not set me down as against the yellow-jackets. I have been giving them a fair trial for two years—or, rather, an unfair one, for I have tried their strength and weakness, in dividing and subdividing; and when they are reduced to almost a handful, they work with a heroism really commendable.

And right here I wish to say that I think if the Rev. Mr. Briggs, whose article appeared in a former number of the Journal, alludes to queens sent out by Mr. Alley, of Massachusetts, and deems them not reliable by reason of their low price, he is mistaken. I ordered one from Mr. Alley, and through mistake he sent me two, either one of which, or their workers, will compare favorably with those of anybody. They are not, indeed, as long or as large as your index finger; but I have queens in my yard from various sources, and among them these are the prettiest. Time only will prove the working qualities of the laborers they produce.

WM. P. HENDERSON.

Murfreesboro, Tenn., Aug. 31, 1870.

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* The Italian queens are, from the brightness of their color, a much more "shining mark" when on the wing, than black queens. Hence, when out on their excursions, they are more liable to be "snapped up" by birds, and doubtless many are thus lost every year. Southern bee-keepers probably suffer more from this circumstance than their northern confreres, as insectivorous birds are more abundant with them.

In some portions of Italy the Ligurian bees were cultivated for centuries, side by side with the common or black bees; yet the difference between them, as regards color or quality, seems to have attracted no attention. But it must be borne in mind that bee-culture fell into decay there, after the fall of the Roman Empire, passing into the hands of a rude and ignorant peasantry. Whereas the superiority of the Ligurians and Cecropians was well known and appreciated in the classic period of the nominal republic. Since the revival of the bee business in Italy (to which it has largely contributed) the Ligurian bee has measurably recovered its pristine favor, and is getting to be preferred everywhere.—ED.

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The yield of honey by various plants and trees depends not only on the character of the season, but on the kind of soil on which they grow.

[For the American Bee Journal.]

The Queen Nursery.

As the readers of the AMERICAN BEE JOURNAL are somewhat anxious to hear about the Queen Nursery, invented by Dr. Jewell Davis, of Charleston, Illinois, I will say that it is a perfect success. I have, since the first of June, kept mine running to its full capacity (twelve cages). I have allowed the queens to remain in the cages six or eight days after hatching. I now have his fertilizing attachment, but have not yet tested it. Young, unimpregnated queens can be introduced by Alley's process, to any queenless colony. I will give a fuller report, and how to use it, this fall or winter. I consider it quite an advantage to save all natural queen cells, and hatch them out in the Nursery; and it is no disadvantage certainly to have a supply of young queens on hand, at so small an expense, to give to a natural or artificial swarm, at swarming time, even if they are not fertilized. When you can draw on your nursery for a queen, at any time at sight, it is quite an advantage; at least I consider it so. It is a positive fact that queens perish in their cells by the thousand, in the natural state, in extremely hot weather. In using the Nursery we can control this matter; for if the weather is extra hot, we place the Nursery in a small colony; and in a large strong one, if the weather is cool. Thus you will see that we have the hatching entirely under our own control, and it is not left to chance. The queen breeder can readily see the advantage of separating all his queen cells as soon as sealed over, and having them perfectly safe. I have kept my Nursery in a medium swarm, where they had a perfect queen breeding at the same time. As I said before, queens can be kept in the Nursery any length of time, with perfect safety. I place a small piece of comb containing honey in the cage, between the tins, then place the cell in the cage in a natural position and fasten it with a pin. A very slight fastening answers, as the bees cannot get at it to gnaw it down.

E. GALLUP.

Orchard, Iowa, July 15, 1870.

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[For the American Bee Journal.]

Paper Hives and Z. C. Fairbanks.

MR. EDITOR:—Don't you think that Mr. Fairbanks seems a little cross as well as sharp. He says I assert in my first article what I contradict in my second on paper hives; and, worst of all, says I am to be numbered with the gentiles, whom Dr. Cox gulled to the tune of heavy sums. I deny the charge, and demand proof; though I will say for the benefit of brother Fairbanks, that I think the Doctor a *little* too smooth for *profit*. But, to explain, we call the paper hive, of whatever form, Dr. Cox's hive; and so should we call all movable frame hives, the Farmer's box with Langstroth frames therein.

CHARLES HASTINGS.

Dowagiac, Mich.

[For the American Bee Journal.]

The Looking-glass Again.

MR. EDITOR:—I have used the looking-glass often for arresting swarms, rarely failing; but *I have always used it in conjunction with the shotgun.* Used thus, it seems to induce in the bees the idea of an approaching storm, and that they ought to be securing a place of safety as quick as possible.

Out of a number of examples, I give the following:

A second swarm proved to be bent on emigrating, for on six consecutive days it left as many different hives. Each time it was brought to anchor by the looking-glass, &c. The last time the bees fell as if shot dead, at the flash and report. And for aught I know and saw, they might have kept trying to this day.

In some rare cases, however, I have failed to bring the swarm to settle.

My bees have swarmed heavily this year, and for a rarity seemed to select the tops of the highest trees to settle on, and then would often leave for the woods after hiving. Query, was there any connection between the two facts?

The early season, here, was superior for honey, up to the blooming of the white clover, which was very scarce, and almost devoid of honey. The weather has been hot and dry, and no honey since.

There has been no honey-dew since the war near me; whilst a large piece of woods, three miles off, seemed, two years ago, to be literally flowing with honey-dew, and alive with bees. The tract was three miles wide and five miles long, and alive with bees, throughout its whole extent, every day for several weeks. Did the bees of the country gather there?

Your paper is read with intense interest. Long may it live to contribute to the pleasure and profit of bee-keepers.

J. B. TOWNLEY.

Red Hill Depot, Albemarle Co., Va.

[For the American Bee Journal.]

The Drouth, Bee Pasturage, and Queens.

The honey season has not been good, in this section of country, since the middle of June, in consequence of continued hot and dry weather. Two timely showers served to make a fair crop of corn, but did not much increase the secretion of honey—hence the bees have not gathered more in that period of time than to supply their daily consumption, and keep them brooding. These points I have watched closely. The white clover bloomed nearly two weeks earlier this year, than usual here; and, therefore, by the time the colonies had brooded up to the point of swarming, the chief honey harvest was gone. Hence, but few natural swarms came off, and most of these came near starving to death, and will require doubling up for wintering.

I made a number of artificial swarms, by taking a comb of brood, honey, and bees, from six full hives and putting them together into a new hive—using empty frames to fill the vacancy made in the old hives. The swarms thus made have done well, compared with natural ones, and will be in fair condition for winter.

It continues so dry yet that we cannot look for a large yield of honey, either from buckwheat or other flowers; nor, if we could, can we expect much honey to be stored in boxes, where comb has to be built to receive it, as the nights are becoming too cool for comb-building.

I have seen the bees work incessantly for two or three weeks, this season, upon the plant known as Carpenter's Square, (SCROPHULAREA NODOSA MARILANDICA, *Nodose Scrophularia, Figwort,*) and also, as usual, on the Purple Polynesia, which appears to yield honey remarkably in hot and dry weather. In this vicinity, also, both the black and the Italian bees have worked on the red clover, during the last weeks of August. But, more than all this, our bees this season seemed compelled to visit the groceries for sugar and other sweets, to supply the lack of honey in the flowers, and have perished by thousands in their demoralized eagerness to obtain them.

From all this we have learned again the *necessity* of cultivating more extensively some crops or plants that will yield honey in the usual barren interval between the failing of the white clover and the Alsike and the coming in of the buckwheat and fall flowers. The linden trees supply this in some localities, but not in ours—being too remote from them. Buckwheat sown about the first of June, will often fill this interval, and that sown a month later will make the fall pasturage. Thus, by a proper disposition of crops, we may, with favorable weather, make a continued honey harvest all the summer months; and, in unfavorable weather, secure at least a partial supply for the same period of time—thereby saving millions of bees from the demoralizing effects of visiting groceries, and the consequent loss of their lives.

This summer my bees have not been disposed to start as many queen cells as I desired; and, hence, after supplying all my colonies with queens, have not had as many as I wished, to experiment with in the various proposed methods of fertilization in confinement. But I have had enough to show me that under our present knowledge of these processes, none of them are as successful as is desirable for the purposes of the intelligent queen-raiser. I have learned, moreover, that by most of the methods employed the queens and drones become so excited, that, without fostering the disposition for mating (the purpose for which they are confined) they worry themselves to death in a very short time. To remedy this, I have made cages on the same plan of my Queen Nursery cages, but larger every way, with the covered way at one end converted into an *ante-chamber* for the introduction of the drones at the proper season, without disturbing either the workers or the queen in the queen's *parlor.* In this parlor we put two square inches of comb, filled with mature brood, and, over this, three inches square of comb filled with honey for feed; and in the vacant part of it, we suspend a queen cell sealed over. Then, after closing the door, place the cage in a populous stock of bees, for the queen and workers to hatch. Thus, by the time the queen hatches, she will have nearly a hundred workers in the cage with her, and will not become uneasy or excited to get out of the cage. She will thus remain quiet on the comb, until she is old enough to leave it and go in search of the drones. Near this hour the drones can be introduced by the little tin door at the bottom of the ante-chamber, that door closed again and the tin slide carefully removed. The drones and queen are thus let together, without excitement or disturbance. This cage may be made six inches long, by four inches deep, and one and a half inches wide. Then, by placing the comb in the middle, at the back end of the parlor, with the capped cells facing the wire sides, the bees can emerge from the cells and pass all around the comb.

From various experiments I am led to conclude that the above arrangement will approach nearer to the thing wanted, than any of the plans yet made public. I am, also, further convinced that much attention must be paid to the age of the young queen, and to the state of the weather, in order to secure fertilization in confinement. In fact, we must approach as near as possible to the natural state of the circumstances that govern the mating of queens and drones. I may say, in addition, that it is evident some queens will mate earlier than others, if not hindered by bad weather. The meeting of the queens and drones must not be attended by any circumstances calculated to cause either of them to become alarmed and seek release from confinement; for if thus alarmed or excited, they will worry themselves to death in a few hours, or forget all their natural instinct for mating or fertilization. On the plan above described the queen feels at home where she was hatched, with her hundred associates around her, and under careful management, not liable to become excited. The drones alone are liable to be in any degree alarmed under this method; and I find this is quickly removed by letting them into the presence of a few workers, as in the above case. If done quietly, little excitement need occur.

JEWELL DAVIS.

Charlestown, Ill., Sept. 5, 1870.

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[For the American Bee Journal.]

Bee-keeping Advancing.

MR. EDITOR:—We are doing a fine thing in the bee business here this season. We (my brother and I) are creating quite an interest in bee-culture around here, by the use of our Hruschka. The way we sling the honey out is a caution. We have obtained six hundred and twenty-five (625) pounds of extracted honey, and six hundred and fifty (650) pounds of box honey from eight colonies of bees, and have increased them to twenty-two; and all the hives are full of honey now—the result of scientific bee-culture.

Old fogy bee-keepers begin to open their eyes, and think that bee-keeping is not all mere *luck*. The light begins to shine, and bee-keeping is advancing.

The Italian bees are more and more approved, and taking the place of the black bees; and I am in hopes we shall in a short time have none but Italians around here.

We have tried friend Alley's plan of introducing queens with tobacco smoke, and failed several times, simply because we did not smoke the bees enough. We introduce now successfully with tobacco by smoking them till they are nearly stupefied, and then they will receive the queen without fail. We find the Italians will receive a queen quicker or more readily than the black bees, without any smoking. The Italians are better every way than the blacks. They are as much in advance of the latter as the mowing machine is in advance of the scythe.

D. L. COGGSHALL, JR.

West Groton, N. Y.

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For the American Bee Journal.]

A Visit to Palmer Bros' Apiary, and What I Saw There.

I lately went to visit the apiary of Palmer Bros., at New Boston, in Mercer county. When I came near the house I saw a lot of beehives nicely arranged in rows, north and south, and east and west. They were some eighty in number, I think. The inmates of the house were two very pleasant, clever young men, keeping bachelor's hall. My team was put up and cared for, and we had an interesting talk about bees, beehives, and raising queens.

After dinner the honey-slinger was brought out. It is one of their own getting up, and does well the work it is intended for. A hive was opened, some frames removed, and about twenty pounds of very nice honey slung out in ten minutes.

On returning home and having a good night's sleep, I went into my own apiary next morning with new spirits.

Eliza, Ill., Aug. 3, 1870. J. BOGART.

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[For the American Bee Journal.]

MR. EDITOR:—You may remember that in the Bee Journal for September, 1869, Mr. George P. Kellogg, of Waukegan, Ill., gave out a very broad challenge to bee-keepers. In the October number, I accepted his challenge; but since that time we have not heard from Mr. Kellogg, through the Journal. Now it is due that he should withdraw his proposition, or meet us at the State Fair, in Michigan, and take an oyster supper, and pay the printer; or cry "*peccavi!*" and I will pay the printer. What say you, brother Kellogg?

We have had an excellent honey season in northern Wisconsin, so far, this summer; with a prospect of its continuing until frost comes. Success to the enterprise, and the Journal.

A. A. HART.

Appleton, Wis., Aug. 6, 1870.

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In bee-culture the chief factor is intelligence, and not capital. The former must produce the latter.

THE AMERICAN BEE JOURNAL.

Washington, Oct., 1870.

☞ We have on hand, and unused, numerous favors from correspondents, as most of them having been received too late for this issue. The present arrangements for printing the Journal render it necessary that articles intended for its pages should reach us not later than the 10th of the month, to be in season for the ensuing number.

☞ We have received copies of "Old and New," "Every Saturday," "Good Health," and several other periodicals and publications, which we purposed noticing this month, but are prevented by want of room.

☞ The August number of this Journal contains an article on "*Pure Fertilization Controllable*," translated by the editor from the "Bienenzeitung." It appeared in that sterling and standard periodical, as a communication from the Rev. A. Semlitsch, who is pastor of a congregation and a member of the Ecclesiastical Council at Gratz, in the Austrian province of Stiria. He has been a prominent correspondent of the Bienenzeitung for a quarter of a century, and was previously known as one among the five chief contributors to Vitzthum's "*Monatsblatt für Bienenzucht*," the precursor of the Bienenzeitung. He has always been distinguished for eminent zeal and efficient labor in striving to advance intelligent and scientific bee-culture; and published in 1856, at Gratz, a very excellent practical treatise in aid of the cause. No man in Europe ever questioned his truthfulness, or impeached his honor.

☞ We have copyrighted this Journal, not to prevent or prohibit any of our exchanges from copying articles from its pages, but that those who do copy may see the propriety of giving credit to the American Bee Journal, so fully and plainly that there can be no mistake or misapprehension about it. Some have heretofore appropriated such articles bodily and boldly, without giving any credit whatever; some thought they had "*somewhere read*," so and so, &c.; others simply credited "*Ex.*," leaving the whereabouts of the said Ex. to be guessed at; others again, extending their liberality a link or two, credit "*Bee Journal*," vaguely and indefinitely. We have borne this hitherto without murmur or complaint, "note or comment," but do not intend to be so forbearing hereafter. If articles are worth copying, their source is worth acknowledging; and those who fail in doing this in future, may expect to have to pay for copyright. We punctiliously give credit ourselves, and may properly ask to receive it.

"Hanc veniam damus petimusque vicissim."

Great waste occurs in feeding meal, in early spring, as a substitute for pollen, and many bees are lost while endeavoring to supply themselves, being chilled by a sudden change of temperature. To prevent this German bee-keepers do the feeding within the hive; and Mr. Kanitz of East Prussia, gives the following as the best mode of doing so: Take fine wheat flour, rye or oat meal, and stir it gradually into lukewarm liquid honey till it forms a pretty stiff paste or mass. In the evening spread a few ounces of this on an empty comb, insert it in a hive, and it will be carried up by the bees in the course of the night. Not more of the paste should be prepared on any occasion, than can be immediately fed. The substitute for pollen thus fed, it is said, greatly promotes brooding.

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CORRESPONDENCE OF THE BEE JOURNAL.

Richmond, Ohio, August 18, 1870.—I have put off writing till harvest is over, and will now have a short talk with you on different subjects. This summer has been a very pleasant one in this part of the country, with good crops of all kinds except fruit, of which there will be a small yield. We have been favored with plenty of rain and consequently good pasture for stock, and plenty of flowers for the bees which the latter did not fail to enjoy, for they gathered large stores of honey and multiplied more generally than they have done for a number of years.

I have been keeping bees all my life as my father did before me, but never made it a study until about two years ago. Since then I have been trying to put my bees in movable comb hives. These I think every bee-keeper must and will have ere long, as also the Italian bees, which I think are much better then the natives, except that they are inclined to rob the blacks. But I would keep them for their beauty, if they had no other good qualities. I wish some one would give us a general test of their purity as known in Italy. This should be known throughout this country, as nearly every queen breeder has a test of his own. My bees have four bands, counting all; two broad ones next to the middle, and two narrow ones behind those. If this is not enough, then I will go for better and purer ones, as I want the best and none others.

The time of year is coming to think of wintering bees, and I want to build a wooden house large enough to accommodate one hundred hives. I wish some of the knowing ones would give us, through the Journal, proper directions for building such a house.

Now, a few words in conclusion. Inclosed you will find my subscription for the Journal for this year; and please accept my thanks for the valuable instruction I have received from the American Bee Journal, and my best wishes for its success. May its contributors and readers grow wiser and sweeter every year.—J. W. Taylor.

Brooklin, Ontario, August 20.—Bees have done exceedingly well in this Province, this season; better than they have done for several years. Though the loss was fearful last year, it has nearly been made up. This Province is not abundant in forage for bees, and we never expect to realize the figures of *Novice*; yet some have taken from my hive four boxes of virgin honey, eighty (80) pounds; and one hundred and forty-two (142) from the body of the hive, with the Extractor—making *two hundred and twenty-two* (222) pounds from one colony. Another writes me he has taken this season over two thousand (2,000) pounds in boxes, and five hundred (500) pounds with the Extractor.—J. H. Thomas.

Ghent, Ohio, August 22.—I have read and re-read every number of the Journal, and find it instructive and profitable. My bees wintered well, last winter, in my house as described in Vol., V. page 100, of the Journal. Last winter was with us mild and nice for wintering on summer stands. I have realized two hundred and fifty (250) dollars from thirty hives this season, and have two hundred (200) pounds of honey on hand. It was all box honey. The increase was twenty-five (25) good strong natural swarms. They are all black bees except one, a hybrid queen sent to me last fall, as pure, from an Eastern queen breeder. They are not very sociable. The season was all one could wish for. Bees have done well. The spring opened just right, and continued favorable throughout. Success to you and the readers and columns of the Bee Journal.—T. Pierson.

Eliza, Ills., August 22.—Bees have done well here this season up to this time. I have some in Langstroth hives that have stored one hundred and twenty-five (125) pounds of honey to the hive. I enclose two dollars for the Bee Journal, as I cannot do without it.—J. Bogart.

Leroy, Ills., August 23.—This is the first year that I have kept bees, and find it a very pleasant business. Bees did not swarm here until August, and then but little. I divided my old stocks in June, all of which, both old and new, are doing finely. I should like to have some older head than mine give me his opinion as to the plan of reducing the number of my stock to one-half this fall, in order to have them stronger and to have plenty of spare comb to commence with in the spring. And, again,—as I am asking favors—I should like to have the plan given on page 109, Vol. IV., B. J., for out-door wintering republished, for the benefit of new beginners generally as well as myself. The August number came just in time for me to try the new plan of controlling the fertilization of queens. I succeeded in every thing but having the queen mate in the wire case. Will some one else give us his experience? I say three cheers for the American Bee Journal, for I take time to read and re-read every article in it, and find it, together with Mr. Langstroth's valuable book, to be the staff for new beginners to lean upon for apiarian knowledge.—P. Young.

Rising Sun, Ind., August 26.—We have a neighbor at Vevay, Mr. W. Faulkoner, who has had great success this season, with his bees. I called on him last week, and had the pleasure of seeing 3,500 lbs. of white clover honey, which with 1,500 lbs. that he has already sold, makes *five thousand* (5,000) *pounds* for this year. He had but forty-eight stands in the spring, so that his hives have averaged over one hundred pounds each. His increase is fifteen stands, making now sixty-three, which is as many as he wants to manage. His hives are a modification of the Langstroth, allowing the use of surplus boxes on the sides of the frames.—N. H. Shaw.

Shreve, Ohio, August 26.—As I have seen no communication from this place, I have concluded to write and let the readers of the Bee Journal hear of my success in the bee business. I commenced four years ago with the old black bee in the old fashioned way. For a few years I made only slow progress, till of late I have taken more interest in it, and have now increased my stock to seventy-six colonies, all Italians, in good condition.

I was surprised when I read Novice's report of honey this season; but when I came to think over how much I had taken from a few hives with the honey-emptying machine, and as the season was, I think I too could have had a right smart crop, if I had attended to the bees as I should have done in the honey season. As it is, I shall probably not get much over one thousand (1,000) pounds, principally box honey. I will just state, for the benefit of the bee-keeping public, that I have tried a Peabody machine, which works to perfection, and is what every bee-keeper that uses movable frames needs. As far as the different hives are concerned, there is not so much difference as some suppose. I think a plain frame in a simple hive of convenient form is all that any one needs. As far as reliable queen raisers are concerned, I will just state that I have dealt with a good many, and have found Adam Grimm, of Jefferson, (Wis.,) perfectly reliable and prompt in filling orders. I have got quite a number of queens from him this season by mail, post paid. I inclose a photograph of my apiary, and if any of the readers of the Journal wish one, I will send it on receipt of forty cents, or send one on receiving one for exchange. In conclusion I wish the Journal success, and all its readers good luck and much pleasure in the pursuit of so profitable a business as bee-culture.—G. W. Stinebring.

Edgefield Junction, Tenn., August 29.—This season, thus far, has been the poorest, both for swarming and honey, of any for more than twenty-four years that I have been in this State. We had a drouth in May, followed by frequent and severe cold rains for more than three weeks, by which time our clover harvest for bees was nearly past. As a general thing July and August do not furnish much forage for bees, but we have every prospect for honey this fall. The last two seasons we had a honey harvest from almost the first of April till late in the fall; and on both occasions, late in the fall my hives were so filled with honey that in many of them there were not a hundred empty cells. I removed from one to three frames of honey, placing the remaining frames half an inch or more apart for winter. By doing this, and protecting my hives from the cold winds, I saved them all—one hundred and sixty-four in number last year, and sixty-eight the year before. This season being a poor one, I have not increased stock so much, though I have made fifty-one good colonies. In July I had to feed a few colonies, and found it difficult to keep up my nuclei.—T. B. Hamlin.

West Groton, N. Y., August 31.—The honey season has been very good here, and scientific bee-culture is progressing. Old fashioned bee-keepers are amazed when they see the large quantity of honey we got from eight colonies of bees—over eight hundred and seventy-five (875) pounds.

I like the American Bee Journal very much. We should not have had near as much honey, if we had not had the Journal to read and study.—D. H. Coggshall, Jr.

Fulton, Ills., September 3.—Bees are doing very well here now, though the forepart of the season was not generally favorable on account of the drouth. Buckwheat is not yielding much honey. The second crop of red clover is in full bloom, and the bees are working on it very busily. This is the first season that I have seen bees do much on red clover, in this section, as the blossom is usually too large; but this year, owing to the drouth the heads are smaller. The different varieties of the golden rod are just coming into bloom, as also the wild aster; and the prospect is that the bees will do well until after we have hard frosts. Light frosts do not affect the aster. If acceptable, I will try to furnish some account of the doings, of the bees in this section, at the close of the season.—R. R. Murphy.

Genoa, Ills., September 9.—Please excuse my being thus dilatory in not making an earlier remittance for the Journal. This little amount I could have turned to very good account in other directions; yet, as I am circumstanced, I think that one volume of the American Bee Journal is worth three or four times as much to me as the same sum laid out in any other way at home. For had it not been for the Journal, I should long since have been as many of my neighbors are—"*one that* USED *to keep bees.*" I am aware that my location is not naturally favorable for bee-keeping, as we sometimes have two or three seasons in succession that are hard on the bee business; yet I am not inclined to give it up so. In 1868, I put twenty swarms into my kitchen cellar. Most of them had not one pound of honey on the first of January; but I made up my mind to try the winter feeding to my full satisfaction. I took off caps, cut a hole two inches by five through the honey board, which was half an inch thick; fastened cotton cloth upon the under side, which made a box large enough to hold all the food I wished to put in at a time. The food was syrup of good refined sugar. I took care that they were all ventilated according to the size of the stock; and as the temperature would change in a measure with that outside, I would regulate ventilation accordingly; and by constant attention they come out in the spring with the loss of only two swarms, besides two that became queenless. No more bees died than usual in wintering; and although the season last year was wet and cold, they managed to procure sufficient to carry them through the winter in tolerably good condition. But this spring and summer the drouth seemed to threaten them with starvation. We had no rain from the last of March till the first of July, with the exception of two slight showers that did not, either of them, wet the ground more than an inch deep. Notwithstanding, with the white clover, which put out some small blossoms and in moist places where not pastured, continued fresh, and some wild flowers, the bees kept along till the rains came in July. Then the clover and other blossoms came out quite fresh; so for a few weeks the bees gained a little and afforded some surplus honey. Now the buckwheat is in full bloom, and the bees seem to be taking time by the foretop, by improving each hour, shine or no shine. The hybrid bees, as well as the pure-blooded, appear to be exerting themselves to vindicate the superior merits of their ancestors; and although it may seem cruel, I stand ready, with open and greedy hands to receive their hard-earned stores, and furnish them with store-room to enable them to continue on another willing task. My eighteen acres of Alsike and two of melilot clover are entirely killed by the drouth. For three years I have not only had to contend with adverse seasons, but have been a target for friends and neighbors to pop their jokes at, for my persistence in such unprofitable business. But I had made up my mind to fight it out on this line; and by the assistance of the American Bee Journal, with its able and generous contributors, am confident that eventually I will come out all right. Though the season has been a hard one, I have now taken out honey enough to pay for all the sugar I have used and for the four volumes of the Journal, and have added one-third to the number of my stocks this season—while many old fogies of my acquaintance, who laugh at the idea of using patent hives or paying the trifling sum for the Journal, have lost some nearly all, and others quite all of their bees.—A. Stiles.

Sparta Center, M[illegible] September 7.—I cannot think of getting along without the Journal. I supposed that I was doing extremely well in the bee business, until I read Novice's reports, which are surprising. I have kept bees four years, commencing with nine colonies in box hives. At the end of the first season, I had fourteen, all told. I buried them according to the plan recommended in Langstroth's "Hive and Honey Bee," and lost two. The second summer I had fourteen new swarms, making my stock twenty-six in the fall; but, as the season was a poor one, I had no surplus honey. I buried them in clumps, as before, and in the spring found three were *non est*. This was the spring of 1869. During the ensuing summer, I had twenty-four new swarms and nine hundred (900) pounds of surplus honey, and began to know something of the habits, &c., of bees. In the fall of 1869, I built a bee house for wintering, 10 feet by 20, outside measure, 8 feet by 18 inside. The walls were made by using two rows of studding, boarded up outside and inside of each row, leaving an air space between the walls, and filling between the studding with saw dust. This spring I had forty-six good stocks, and have obtained 2,194 pounds of No. 1 honey. I have now one hundred and ten (110) colonies, all but three or four in good condition for wintering. I have no Italian bees, as I wished to learn to manage and handle the blacks, before trying any that might require more skill. I use Langstroth's "shallow things." All except five of my swarms are in frame hives, and every comb is straight with not over sixteen square inches of drone comb to a hive. Sixty-nine of my queens are of the present season. All my new colonies were made artificially, except six. I made them by starting nuclei, and building up by taking comb, honey, and brood from strong stocks. I fed each colony a little syrup every alternate day from April 1 to June 1. Nearly all the surplus honey of this year is made from or *gathered* from white clover blossoms. Last year it was from linden or basswood.—I should like to know if Novice or others using the melextractor, have had any trouble with the honey fermenting after being canned. I have had several cans spoil. It assumed a reddish hue and became watery in appearance. I should like to know how to avoid losing any in future.—A. B. Cheney.

Winchester, Va., September 10.—This has been a good season for honey, but few swarms. I started in the spring with sixty-four colonies and have had twenty-one swarms. They will make a fine lot of honey. I use the Langstroth hive. Some of my neighbors that have ten or twelve old-fashioned box hives, think the Langstroth hive costs too much, but come to me every fall to buy honey. I have seven colonies of Italian bees. I think they are superior to the black bee, both for swarming and making honey. I obtained my queens of Mr. Henry Alley. I think he deserves great credit for sending pure queens and acting honorably with his patrons. My bees are not making any honey now, as there was no buckwheat sown in this part of the country. The most that we have to depend on in this country is white clover and blue thistle. We sowed one pound of Alsike clover seed in April, 1869, and mowed it for seed July 25, 1870. I thought it a humbug, but am agreeably disappointed. My bees worked on it from early morn till late at night. The farmers are much pleased with it, both for hay and pasture.—B. F. Montgomery.

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It cannot be too deeply impressed on the mind of the bee-keeper, that a small colony should be confined to a small space, if we wish the bees to work with the greatest energy, and offer the stoutest resistance to their numerous enemies.—*Langstroth.*

[For The American Bee Journal.]

Two Queens in One Hive.

When removing some honey boxes on the 25th of July last, I found that a large strong stock had two queens. I see in Vol. V., No. 8, of the Journal, that Mr. E. M. Johnson discovered two queens in one of his hives in January. Before movable comb hives were used to any great extent, such a thing was considered impossible; but we hear of such cases frequently, now that we have easy access to the interior of our hives.

After removing the boxes, I placed them in my cellar, to have the bees go back to their hives; which they all did, except those in one box, which I found contained the queen that I had saved about a fortnight before, a few days after they had swarmed. In removing a frame of brood to give to a weak stock, when brushing off the bees in front of the hive, I saw there was a fine looking queen with them. She went into the hive and was received by the bees. Now, why was this queen in a box containing sealed honey? I should judge both queens were fertile. The bees had killed off their drones a number of days before, so that they did not think of swarming.

Now can we say positively that two queens are not tolerated in one hive? Is it not possible that the workers cluster around them, and keep them apart?

The next day, I returned the queen, after smoking both queen and bees. She was well received, and was all right the next time I opened the hive; and for all I know, they have two queens still. If other bee-keepers have such cases, I should be pleased to hear from them through the Journal.

A. Green.

Amesbury, Mass., Aug. 15, 1870.

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[For The American Bee Journal.]

Bee Houses.

Mr. Editor:—It is now admitted that bee houses are requisite for bee-keepers in this climate.

I have recently seen that "concrete buildings" are "cheap and substantial. For dwellings, all hollow walls and lathing are dispensed with," and they are "found to be as dry as wooden houses." It is also said—"The heat would be so long retained in the walls, that the saving in fuel would be no inconsiderable item."

It appears to me that this is just what is wanted in those localities where the material can easily be had.

Will some of your correspondents, acquainted with the subject, give an opinion as to their adaptability, and mode of construction?

Tyro.

Ontario, Canada.

◆

The blossoms of onions abound in honey, the odor of which, when first gathered, is very offensive; but before it is sealed over, this disappears.—Langstroth.

[For the American Bee Journal.]

Bees in Hancock County, Indiana.

Mr. Editor:—Having been raised in the mountains of Virginia, I had not much chance for schooling and do not expect to write anything smart; but in my blundering manner will try to tell you how I am getting along in the bee business.

In the fall of 1868, I had twelve stands of black bees in log and box hives. All seemed to be in nice order and doing well. But they became subject to dysentery, flux, or whatever you may please to call it. The disease did its work, and next spring I had one colony left, with not over a quart of bees. But 1869 was a good season for bees. My one colony cast five swarms, and the first swarm cast one also—making seven in all. All wintered well on their summer stands.

This spring I bought Langstroth hives, and on the 27th of May got a man that understood the business to come and help me transfer and divide them. We put them in fourteen hives, and all are doing well. We took away the black queens and gave them Italian queens—one of which died or was killed before commencing to lay, for which my man sent me another in her place. Another either died or was killed, nine days after she was introduced, but left plenty of young brood; and they have not less than fifteen queen cells capped and nearly ready to hatch. Query, would it be better to divide them as they are very strong, and then have their queens fertilized by black drones, as I have no Italian drones yet? Or should I let them alone, and let them swarm or kill off all their queens but one, as they see fit?

I intend to divide all my bees as soon as Italian drones are plenty. Mine are the only Italian bees in this settlement, and the woods are full of black bees. I shall be troubled with hybrids, but intend to keep on in the good work until I have them all pure Italians.

Our country is almost covered—that is, pastures and meadows—with white clover. Even the lanes and highways are white with its bloom, and bees have a good time gathering honey.

I am well pleased with the Journal, and add the names of some bee-keepers, who perhaps do not yet take it. I think you would do well to send them specimen numbers.

Jonathan Smith.

Willow Branch, Ind.

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BEES ALOFT.—About two years ago, a swarm of bees was discovered in the steeple of the Congregational Church in Gilsum, N. H., where they have since remained. As a result, fifty-six pounds of honey were recently obtained from the sacred edifice.—*Boston Journal.*

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Light colonies, deficient in honey, should be fed in the latter part of September or early in October. If feeding is begun early, in seasons where late forage is abundant, there will be a great waste of honey.—*Langstroth.*

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AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

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[For the American Bee Journal.]

Cure of Foulbrood.

Mr. EDITOR :—I promised, (vol. V., page 187,) to report how my refrigerator wintered its colony. The frames were covered with a piece of old carpeting, and the whole space outside the inner hive packed with straw and shavings. This spring it was in splendid condition, and it was found necessary to remove brood and cut out queen cells as early as the 20th of May ; and, for this locality, the surplus would have been large, if I had not been obliged to break up the colony on account of *foulbrood.*

You can imagine my disappointment when my apiarian friend, Mr. Sweet of West Mansfield, pointed out to me this loathsome disease in my choicest Italian colony, early in June, when up to that time I had supposed that everything was prosperous with my twelve colonies. After a thorough examination I found six hives more or less affected, and according to high authority, should be condemned to death. The other six appeared free from disease at this time, although three more subsequently became diseased.

This is my second summer of bee-keeping, and all the duties pertaining to an apiary were entered into with the enthusiasm, and shall I confess it, the ignorance and carelessness of a novice, Yes, ignorance and culpable carelessness, for in gathering empty combs from various quarters, the disease was introduced and spread among my pets. One hive, in particular, of empty comb had the peculiar odor, perforated cells, and brown viscid fluid, with which I have since become so familiar this summer ; and it seems unaccountable to me, how any person with the Bee Journal wide open and Quinby's instructions before him, could be so careless as to give such combs to his bees.

But such was the fact, and foulbrood spreading right and left. What shall be done to get rid of it? Shall Quinby be followed, purify the hive and honey by scalding, and treat the colony as a new swarm ; or shall the heroic treatment of Alley be adopted ; bury or burn bees and hive, combs and all? The latter has sent me some fine queens ; but the former has always given reliable advice, and I shall follow his instructions with two colonies which are past all cure, and reserve the others for treatment, hoping that I may find some cure, or at least palliative for the disease, and add my mite of experience, and, perhaps, useful knowledge to our Bee Journal.

Accordingly, June 8th, the combs of the two condemned colonies were melted into wax, the honey drained over and scalded, and the bees, after a confinement of forty hours, were treated like new swarms ; and now, September 18th, are perfectly healthy and in fine condition for winter.

I will not occupy your valuable space with all the details of my experiments and fights (which lasted through three months) with the trials of doses of different strengths and kinds, with old comb and new, with young queens and old ones, and with no queen at all, and how, in doing this, I was obliged to keep up the strength of the colony for fear of robbers and of spreading the disease to my neighbors. Suffice it to say, that after two months I had made no apparent headway, although still determined to "fight it out on this line, if it took all summer" and my last hive. In fact, I devoted my apiary to the study of this disease, and, perhaps, death.

Starting with, and holding to the theory that foulbrood is contagious only by the diffusion of living germs of feeble vitality, (and I was strengthened in my conjecture in microscopical examinations, by finding the dead larvæ filled with nucleated cells,) I determined to try those remedies which have the power of destroying the vitality of these destructive germs, these living organisms. And no remedies seemed to me more potent than carbolic acid and hyposulphite of soda. At first I used both, making one application of each, with an interval of one day, and with apparent benefit. But, attributing the improvement to the more powerful of the two, I abandoned the hyposulphite and used the carbolic acid alone, and I was so infatuated with the idea of its superiority, that I did not give it up until three of the four hives had become so hopelessly diseased, that the combs were destroyed and the colonies treated to new combs (as it was late in the season,) and freely fed with sugar and water. These are now in good condition for winter.

The fourth hive was carried a mile away, the queen caged, and the colony strengthened with a medium sized second swarm. After all the brood, which was advanced, had left the cells, I transferred the colony to a clean hive ; thoroughly

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sulphured the old hive with burning sulphur, and stored it away in a safe place for future experiments. I now thought my apiary free from the pest; but on thoroughly examining the whole, three new cases of foulbrood were found—one very badly affected, and two slightly so, with perhaps twenty to forty cells diseased and perforated.

This was about the 1st of August, and again hyposulphite of soda was selected for the trial; and from the first application I have had the disease under control. Three days ago I examined the three colonies thoroughly, and found no new cells diseased in the two which had been the least affected; and in the almost hopelessly diseased one (as much diseased, in fact, as any of those that I destroyed,) an entire brood had been raised, with not over fifty or sixty diseased and perforated cells with dead larvæ remaining, most on one comb, and nearly all the cells contained a new supply of eggs; this colony is certainly convalescent, and I think now, from the recent and second application of the hyposulphite of soda, is entirely cured. Still, I should not be surprised to find two or three, or even more, perforated cells after this second crop of brood has hatched, as the whole hive, honey, and comb, had been for so long a time so thoroughly saturated with the disease, and at least two-thirds of the cells had, before the *medicine* was used, been filled with putrid larvæ. If so, I shall treat it to a third dose.

Now, Mr. Editor, as it is frequently of as much practical importance to tell how to administer a remedy, as it is to know its name, I will ask your indulgence a little longer, hoping that others may improve upon my remedy or at least test it, if they are so unfortunately ignorant and careless as I was, in bringing "the wolf home to the fold."

The solution of hyposulphite of soda which I used, was one ounce to half a pint of rain water. With this I thoroughly washed out every diseased cell with an atomizer, after opening the cap; also spraying over the whole of the combs and the inside of the hive. The instrument I use is a spray producer, invented by Dr. Bigelow of Boston, and sold by Codman & Shurtleff of that city. There are two small metallic tubes, a few inches long, soldered together; and by placing the point of exit of the spray at the lower part of the cell, the whole of the contents of the cell is instantly blown out upon the metallic tubes. With a very little practice there is no necessity for polluting the comb with the putrid matter. Place the comb perfectly upright or a little leaned towards you, and there is no difficulty; yet, if a drop should happen to run down the comb, it would do no harm, but had better be carefully absorbed with a piece of old dry cotton cloth. I quite frequently do this with the bees on the comb, as it does them no harm, to say the least, to get well covered with the vapor.

It is not at all injurious to the larvæ, after they are two or three days old, though it may be before that time, as I have noticed that after using the hyposulphite where there are eggs and very young larvæ, the next day the cells are perfectly clean.

There are many interesting points which have come up during my summer's fight, which I would speak of; but I have already gone beyond all reasonable bounds in this communication.

EDWARD P. ABBE.

New Bedford, Mass., Sept. 18, 1870.

[Translated from the Bienenzeitung,
For the American Bee Journal.]

Queen Breeding.

To obtain not only purely fertilized queens, but fine, bright yellow ones, I have for some years proceeded thus:

As all Italian queens do not produce equally fine drones, I mark those stocks in the course of the summer which contain queens producing the choicest of these. Then, in the following spring, when I desire to have a plentiful supply of prime Italian drones early, and before common drones make their appearance in neighboring apiaries, insert in the hives thus selected and marked, combs of worker brood taken from other colonies. I do this in order to make those colonies very populous, so as to induce drone-egg-laying; for a queen will always be disposed to commence doing so, if she is in a strong colony well supplied with honey, or is well fed. As soon as I find that those colonies are becoming populous under this management, I insert some empty drone comb in the centre of the brooding space. These the queen, stimulated by liberal feeding, will speedily supply with eggs; and when the drone brood so produced is nearly mature, I subdivide these combs and insert pieces in nuclei previously furnished with young bees, worker brood, and eggs, taken from the colonies containing the choice queens from which I design to breed, and which are known to produce the largest, most active, and best marked workers.

As the drones form the brood thus introduced mature several days sooner, than the young queens bred in the same nuclei, there is a strong probability that the latter will be fertilized by them and consequently produce fully marked choice progeny, as it is certain that queens will almost invariably be fertilized early if they and the drones are bred in the same hive or nucleus, since that secures the simultaneous flight of both and obviates the necessity of a wide range in their excursions. I adopt this process also, because if the Italian drones of the colonies, which contain the young queens, are poorly marked and dark yellow in color, we cannot reasonably look for bright and handsomely marked progeny.

At about ten o'clock in the morning of a calm, clear day, when the young queen is at least two days old, I feed the bees of the nucleus with diluted honey. Drones and queens will then almost invariably issue at the same time, and before common drones from other colonies or neighboring apiaries are on the wing. Thus both disappointment and delay are in a great measure precluded. I do not stimulate the bees of the nucleus by feeding either on the first or the second day after a young queen has left her cell, because she is then yet too feeble to make an excursion with safety. But I have frequently succeeded in having fertilization effected on the third or fourth day, in favorable weather, when the nucleus thus stimulated contained both drones and queen; and in many cases the queens began to lay on the third or fourth day thereafter. In this way, I not only obtain many (I do not say all) purely fertilized queens; but also very superior ones, large, vigorous, and prolific, producing both workers and drones well marked and brightly colored.

I do not indeed claim that this process gives us absolute certainty, but only a very great probability, that the queens we rear will be purely fertilized. Other bee-keepers too, who employed it long before the Kœhler method was promulgated, regard it as furnishing the most likely means of assuring success. Thus, for instance, the President of the Bee-keeper's Union of Moravia, Dr. Ziwanski, who is not a blind imitator of others, but a careful and indefatigable inquirer, never recommending aught for adoption till he has himself tested it with success, found my method worthy of adoption five years ago already, for his annual report for 1865 contains the following passage:—

"I made five nuclei this year, with fresh brood from pure original Italians. When fitting them up, I recollected a suggestion of the Rev. Mr. Stahala, and inserted both drone and worker brood in four of them, omitting the drone brood in the fifth. The queens of the first four mentioned were purely fertilized, while the one in the fifth nucleus mated with a common drone. This result induces me to invite your attention to the fact, for it is reasonable to presume that queens making their excursions will be more likely to mate with drones from their own hives flying simultaneously, than with drones from other and distant hives. The queen usually makes such excursions only at periods when drones are flying, and there is then generally great commotion in the hive, as though there was much eagerness to get abroad and enjoy the genial air. Still, too much must not be expected from this suggestion and its adoption. It is not supposed that any preliminary arrangements or appointments are made by drones or queens, before the excursion is undertaken; but merely that there is a much greater probability that parties flying at the same time and necessarily in close proximity, will mate, than those starting from remoter points. Hence since it can can do no possible harm to supply our nuclei with drone and drone-brood in this manner, the plan should by no means be disregarded when preparing to Italianize an apiary."

By means of this process, having selection to to a great degree in my power, I frequently obtain queens nearly entirely yellow, having black only at the extremity of the abdomen. I have procured queens for breeding from both Dzierzon and Mona. The young queens breed from Dzierzon's stock were at first handsomer than those bred from Mona's. But in later years, since using the method I now recommend, I obtain equally fine queens from the latter's stock. The drones from Mona's queens were, from the start yellower than those from Dzierzon's, which were only faintly tinged with yellow on the sides, and had dark orange bands. Observing this, I then took worker brood and queen cells from the Dzierzon's queens, with drones and drone-brood from the Mona queens, to furnish the same nucleus, and thus obtained regularly very handsome queens, bright workers, and very fine drones.

J. Stahala, *Pastor.*

Dolein, near Olmutz, Feb. 5., 1870.

[For the American Bee Journal.]

Purity of Italian Queens.

Your correspondent, E. L. Briggs, in the August number of the Journal, has stirred up the bee-keepers a little; and for fear they will not discuss the point which most interests me, I drop you a line, hoping that those who have had more experience may be able to settle the question.

It is a fact which I think no one will deny, that it would be for the interest of every one selling queens, to send only such as are purely fertilized. It being as easy to rear queens from pure eggs as from any other, we may look to some other cause than selfishness or cheapness of the price for the difficulty. I have managed my apiary under the impression that the Dzierzon theory is correct, that the drones from a pure queen which had mated with a black drone, were pure.

I have failed in keeping my stock pure enough to breed from; and in my opinion, other bee-keepers who have reared queens in the same way, are as badly off as myself. If we wish to improve the Italian bee, we may do so by selecting the best of its race, both male and female, to breed from; not by crossing with the black bee. The type of the Italian bee should be so fixed, that the bees all show the same marking. We may fix the type of any admixture of the German and Italian bees, so that they will have similar markings. The crossing has been so recent in many cases, that there is no uniformity of color. Breeders of choice stock look as much to the quality and purity of the male as the female parent. It is my present belief that bees are as much subject to the rule, as the animal creation are.

I look for higher results than any yet attained, when we control (as we soon shall) the mating of our queens; and the low priced ones have given me the most satisfaction so far.

L. C. Whiting.

East Saginaw, Mich.

[For the American Bee Journal.]

Italian Queens.

Mr. Editor:—Since so much has been said of late about Italian queens, (especially cheap ones,) I feel it my duty, in justice to Mr. Alley, to say, that I purchased one of his $2.50 queens last June and have bred sixteen queens from her, besides a host of drones and workers; and the facts are, first, her progeny are all three-banded;

second, she is the most prolific queen in my apiary; third, her workers are very industrious; fourth and last, I am not at all out of patience because she cost me only $2.50. Five dollars will not buy her to-day; and if I have the good luck to keep her till next June (supposing she is young, as claimed by Mr. Alley), I shall not want to part with her for two fives. All who have seen her and her workers, pronounce them beauties; and Italian bees are nothing new in these parts.

James Heddon.

Dowagiac, Mich., Sept., 1870.

[For the American Bee Journal.]

Novice.

Mr. Editor:—Sometime ago, in one of our articles, we mentioned that we considered the "Apiary" department in the "*Rural New Yorker*" of more real worth than some of the periodicals specially devoted to bees.

We had then seen about half a dozen of the "Rurals" that contained some very good articles, from the pens of intelligent bee-keepers who were well up to the times. Since then, however, we have seen so much else there so greatly behind the times, that we must think our decision then a little hasty. For instance last week a bee-keeper takes the trouble to inform the public that "hives should be moved in the night *when the bees are all in*, for he had just moved some in the day time and a large number that were out, never found their hive on their return. So take notice everybody, always move your bees at night! As this was given as a piece of valuable information, we looked in vain for some note from the editors, cautioning their readers against falling into the same error, and pointing it out. And then we wondered if the editors knew any better, or anything about bees at all, for many of their articles seem to imply that they are uninformed and publish anything they come across, indiscriminately, truth and error, without note or comment.

The editor of the Apiculturist thought it the height of absurdity because we seemed to consider him in any way responsible for what his correspondent wrote. We certainly *were* so innocent as to suppose that an editor *knew* what he was going to publish, and that should a correspondent send him an article containing a very gross error, calculated to lead beginners astray, he would tell such correspondent his mistake, without using his article; or if it contained something else good and valuable, and he decided to publish it, he would kindly mention the mistake or error, in a little note somewhere, and give his readers confidence by letting them know that some one *was* "running the machine" "somewhere."

There are a large number of good farmers who refuse to read agricultural papers, because they say, and with considerable reason, that more than half that is written is "impracticable nonsense." We believe the American Agriculturist and the American Bee Journal are at least two noble exceptions. None of their readers can fail to know that each of those papers is *edited* by some one who is fully posted, and is *at home* too *every time.*

The Apiculturist intimates that we think no one else has a right to *start* a bee journal. So far from that we would be glad to subscribe this minute for half a dozen more; if they were in charge of competent men and had the broad platform before them that our own Journal has—namely, the advancement of bee culture for the nation at large.

We should have replied to the Apiculturist before, but he "called names," and when we were a small boy we used to make it a principle that when our comrades called us names, we "wouldn't play any more," and we feel just so still.

We, too, Mr. Editor, noticed the mention in the "Scientific American," of the chicken roost bee arrangement to stop moths, and felt pained to think that anything, so far behind the times, should be found in that paper. Then, again, we noticed shortly after where they advised a correspondent to *chop* up his combs and strain the honey out, and mentioned too that it *was said* that the outside combs contained the nicest honey! Have Munn & Co., too, been sleeping in Rip Van Winkle style, or do they think us Bee Journal people not to be depended on?

We have had many letters from highly intelligent people, even professors in colleges, asking about the melextractor and inquiring whether there was no serious objection to such unnatural treatment of bees?

"Unnatural treatment," indeed! About the 25th of last June, a farmer called on us to know where he could sell his honey best. On asking him how he had got it so early, he coolly informed us that he had *taken it up*, as *it seemed full!* But how about the brood? He didn't know what we meant by brood, but had thrown away the young bees and did not think that they were of any use! Murdered thousands of young innocents before the end of June! Of course such treatment is perfectly *natural* and right. He didn't get much for his honey.

Mr. Editor, we are getting hoarse in trying to explain, and all we tell inquirers now is to get the "*American Bee Journal.*" Yet many, many times they can't afford it, and many more times don't get time to read it. Yet the same persons will say—"Why, Novice, your forty-six hives of bees have been worth more to you than any hundred acre farm in Medina county," and go home quite excited.

We have had a few weeks' drouth, the first this season, and it soon stopped the honey from autumnal wild flowers.

Since Mr. Tillinghast suggested our being called "Expert" (or some such foolishness), we think we could hardly be honest without confessing some of our work this fall. For instance, we removed queen from No. 23, August 9th, and ten days after cut out thirty-two (32) queen cells. We have mentioned before that we tried hatching some of them in cages, and the rest were put in hives from which we had removed hybrid queens. We were such an *expert* at the business that we hatched about one-half the thirty-two, and after they were hatched, we *bungled* the life out of *every one*—some by artificial fertilization experiments; and the rest wouldn't lay and finally died their "own selves."

Well, (we have considerable patience,) we tried again; removed queen from No. 16, August 28, and cut out twenty-one (21) cells ten days after. Of these we *did* raise five laying queens; and most of the other cells were destroyed by laying them on the top of the frames when the weather was too cool. In fact we have had more cells destroyed this fall than ever before, and only saved five by inserting them carefully in place of one *cut out*. Now, Mr. Editor, we should have felt somewhat better at this result, had we not discovered that the original queen removed from No. 16 had been killed, and only a miserable, small, black queen reared in her place. She was put in a hive in which we had a caged, unfertile queen, and we neglected to look whether they had raised any more. *Inexcusable carelessness*, we call it.

To shorten the matter, we sent Mr. Grimm fifty dollars on Monday morning ,and received twenty-five nice queens (or a part of them at least) on Saturday afternoon. Is not that pretty prompt?

Now, Mr. Editor, we are going to take this queen raising business up next spring just where we left off; and if we can't do better, and at least raise enough for our own apiary, we shall call ourself something worse than

October 10, 1870. NOVICE.

* * *

[For the American Bee Journal.]

Natural, prolific, and hardy Queens.

PART 3.

Answer to Charles Dadant and Willard J. Davis, in September number of the American Bee Journal, pages 60 and 61.

To commence with Mr. Dadant. He says, first, that "we are all disposed to regard our own ideas as indisputable."

Answer. Prove all things; then hold fast to the true. Do not condemn before trial. I have been several years experimenting and am satisfied with my method, as a means of procuring natural, prolific, hardy and long-lived queens—far, far ahead of any yet given to the public. It having relieved me from the disappointment and losses heretofore experienced in artificial swarming, with forced or artificial queens, I have freely given my mode to the public, for adoption or rejection, as they see fit. Those who are *set* in their way, are under no obligation to either adopt or even try my mode; but there are those who are not satisfied with their present light, and who will be benefited by the knowledge of an improved process, and to them my communications are addressed.

He says, second, that I "condemn all artificially raised queens."

Answer. I do: as against nature, reason, and common sense. I see a difference in a provision of nature, by means of which a swarm, accidentally deprived of its queen, can temporarily replace her, till one can be raised in a more natural way, and the way men in their *wisdom* are running the race out. You yourself prove my position by almost every line of your article, if you would only place your trials, troubles, vexations, and losses to their right account—*forced or artificially raised queens.* New brood may seemingly save you for a time; but when all breeders have the *cholorosis* stamped on the product of their apiaries, like will beget like.

He says, in the third place—"why does friend Price imagine that artificial queens are not as good as natural ones?"

Answer. Because convinced by years of experiment and careful comparison (not hard to see, I assure you) of natural with forced queens raised by the means you have mentioned in your article, and by others not mentioned. Even now I am trying the experiment of raising forced queens from the brood of a pure Italian queen received last spring from a celebrated breeder. But so far I have only succeeded in raising cripples, drone layers, and non-egg-hatching queens. Most of them *play out* before commencing to lay; yet I have raised them from the egg—not one of them hatching before the sixteenth day.

He says, fourth, after giving away or getting queens from the egg, "I guess this method is as good as, and more simple than, that of friend Price."

Answer. You would go through every motion that I do, and get two or three queens, worthless in comparison with natural ones; while I would secure from ten to sixty natural ones. If you followed your own method, you would have to divide almost every hive in your apiary. if you got through swarming in any season; while by my method* one hive would furnish all the natural queen cells that would be wanted in the largest apiary in the time of natural swarming.

He says, fifth, "a queen hatched from grubs three or four days old is just as good as any."

Answer. To sell!

Sixth, he says, "many bee-keepers find the half-blood Italian bees are better than pure ones"—his reason being that in and in breeding is broken up.

Answer. Those that receive them, let them swarm naturally; thus the forcing is at an end, and nature again asserts her superiority.

He says, seventh, "In good seasons the queens raised in small nuclei are as good as those raised in full stocks."

Answer. He admits that they cannot at all times raise good ones. He had better have attributed it to the lack of a natural instinct to raise good ones. A swarm on the eve of swarming, broken up into nuclei, would probably raise pretty fair queens—say half as good as natural ones. As well might you hire a rough wood chopper or ditcher to make a watch, as to set a nucleus of bees not having the swarming instinct, to raise a first rate chronometer balanced queen.

Mr. W. J. Davis says that he does not know what effect my Revolvable, Reversible, Double-cased, Sectional Bee-hive may have had on the tender life of a young queen, *forced or artificial.* As I have only used my old Langstroth hives for nucleii; *my* hive has of course not had any influence on them, for good or evil. But my twenty young natural queens, raised by my method, are without exception hardy, prolific, and have every promise of being long-lived. Had they been forced queens two-thirds of them would have been played out before this time. They are as prolific as any of my old "natural" queens which I bought of those who practice natural swarming only. My R. R. D. C. S. B. Hive has a good effect on the life of natural queens; and as Mr. Dadant says his bees in my hive have done better than in any other, and he has of several patents, and as he says he has only raised forced queens, my R. R. D. C. S. Bee-hive most probably saved him.

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* My method and the use of Dr. Davis' QUEEN NURSERY.

Secondly, after reading all his conditions of age, weather, season, stock, nuclei, time, and egg, that have to be consulted to insure a good queen by the forcing process, I have an idea that his queens are natural ones. Do you not bring your bees up to swarming and then secure their cells Gallup fashion? Gallup calls such natural queens. I should. Otherwise why not have good queens from March to October?

Thirdly, Mr. Davis says that "if Mr. Price *or any other* man will, upon examination, decide correctly, by size or fertility (amount of brood), which are of the former and which are of the latter class, he may pick out ten as large and yellow queens as he *ever saw*, and I will make him a present of the same."

Answer. I have only one artificial queen laying, my pure *prolific* Italian. I will guarantee any of my black, "young or old," or other natural queens, to fill five frames with brood quicker than she can fill one; and if you, or "any other man," cannot see any difference between my forced queens† and my natural ones, you must be deficient in the organs of size and weight, and would not be able to tell a Shetland pony from an elephant.

JOHN M. PRICE.

Buffalo Grove, Iowa.

[For the American Bee Journal.]

Introducing Queens.

Dr. H. C. Barnard in the June number of the A. B. Journal, gave directions for introducing queens by fumigating with tobacco smoke. I had introduced them by means of the queen cage, and sprinkling them with sweetened water scented with the essence of peppermint. But as this seemed to be a better plan, I thought I would try it. I caged the queen to be introduced, and followed his directions to the letter, but what do you think I had? A laying queen in twelve hours? Nay, verily, but a dead queen, and half the bees dead and driven from the hive. Now, Mr. Editor, I think a great deal of my bees, and when, in opening a hive, I carelessly kill one, I am always sorry; but then to see them slaughtered by wholesale, was very cruel to say the least. All the next day, whenever I passed that way, the well bees were driving off those that were crippled or had lost the use of their legs or wings. Besides this, while they were in no condition to repel an attack, the robber bees came in for a share, and I came very near losing them. They were not so drunk but that most of them could crawl round, and only a few of them fell to the bottom of the hive.—Dr. Barnard said, "if they all fell to the bottom it would do no harm." Now what was the cause of this failure? I could not have smoked them too much, according to his instructions, for nearly all of them could crawl round, when I first opened the hive to let the smoke out; yet it destroyed fully half of them. I do not write this by way of fault-finding, but so that nobody as green as I was, should undertake the same process, and have a like failure.

G. M. DOOLITTLE.

Borodino, N. Y., Sept. 1870.

[For the American Bee Journal.]

The Looking-Glass Once More.

MR. EDITOR:—I cannot think, as Mr. Nesbit does on pages 80, 81 of the last number of the Journal, that either one of his suppositions in regard to the old woman's bees, would do to rely upon. It is not at all likely that a queen so defective as to be unable to fly a distance of two hundred and fifty yards, would ever have been found where this one was.—And as to there being two or more young queens with the swarm, that may be true; but that they went with that swarm in sufficient numbers to divide them on the apple tree, is positively an erroneous idea. The swarm was followed from the apple tree on which a portion of them was first discovered, to the one on which they clustered last, and they did not seek a place so hidden from view as to make it difficult even for me to see that they selected a bare limb on which to settle. They were hived without difficulty, but proved to be bent on pitching their tent in some other section, by leaving the old box hive unobserved the next day.

As to the "knot" theory, I have nothing more to say—than that, if tried right, it will prove equally true with the *inverted glass theory.* But as to the looking-glass having nothing to do with stopping a decamping swarm of bees, it is a grand mistake. In conclusion, I append a portion of two letters which are before me, showing that I am not the only man that places some confidence in a good thing.

"BELLEFONTAINE, *Ohio, June* 25.

"At the time of swarming, In ever allow noise of any kind, and have never had a swarm that did not settle. If the apiarian sees his bees rise high and act as though they were going to leave, the reflection of a mirror thrown in among them, is the most efficient means that I know of to make them alight."

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† Oranges, bananas, pineapples, and other tropical fruits are forced in hot-houses; but they never reach the size, flavor, or perfection of nature.

"WINCHESTER, *Ohio, June* 21.

"If the apiarian finds that they will not settle, all that is necessary is for him to take a looking-glass and place it in such a position that it will reflect the rays of the sun among the bees, and they will generally settle immediately."

I write for the American Bee Journal for a purpose different from the object of a teacher, and when I appear as such, will be willing to wear a garb that will not fit *Ignoramus.* But, at the same time, if anything from me serves the purpose of teaching, it will be all right with your brother in bee-culture best known as

IGNORAMUS.

Sawyersville, N. C., Oct. 1, 1870.

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[For the American Bee Journal.]

More About the Looking-Glass.

I see on pages 34 and 35, Vol. VI of the A. B. Journal, that Mr. H. Nesbit seems to doubt the efficacy of the looking-glass for stopping a swarm of bees. I would like to tell him an instance, and see if he doubts longer. A near neighbor of mine was at work for me one day, when his wife called him, for the bees were swarming. We went to his house and the bees were just clustering on a tree near by. He got a hive and was going to hive them, when they started to go off. He took a large looking-glass and ran to get up with them, for by this time they had got fifteen or twenty rods from where they had clustered. He reflected the rays of the sun upon them, and they soon began to think of lighting. As there were no trees near by, they began to cluster on his hat; and he, being somewhat afraid of bees, made good time for the house, I assure you. They then settled on a post in the fence near by, and were hived. In about an hour they concluded to try for the woods again; but the looking-glass brought them down once more, and they were hived a second time. In two hours after they started the third time. It being cloudy at the time, they made their escape, as the looking-glass would not work without the sun. Now, was the queen tired or defective, or was it the looking-glass that proved efficient? There were several persons, nearly a mile distant, who saw the reflected rays of the sun, their attention being called from their work by the brightness of the reflection. I am inclined to think it was the looking-glass, instead of the queen being tired or defective. I have since tried it, and never failed to stop a swarm when the sun shone.

G. M. DOOLITTLE.

Borodino, N. Y., Sept. 13, 1870.

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Pösel says that if a colony has suffered from hunger for twenty-four hours, the fertility of the queen will be greatly impaired, and never be recovered.

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All futures are possible to Young Samson. The lion in his path he throttles, turning his carcass into a bee-hive.

[For the American Bee Journal.]

The Hive Question.

This question has again been revived for discussion in the Journal, and several of our patentees and vendors have made pretty free use of its columns for "blowing" their particular inventions and wares. Prominent among them is Mr. J. H. Thomas; and as I have had some experience with his hive, I wish to have my say about it in particular, and other hives in general. Mr. T. has gotten up a neat and substantial hive, and has admirably adapted the use of frames to the old form of the common box-hive—tall in proportion to its length and breadth. The frames are fixed in their relation to each other, but are as easily moved laterally, when desired, as the frames of any other hive. As there are only eight frames, they can be taken out and examined, when looking for queens, &c., quicker than can be done with hives containing a greater number of frames, and this seems to be considered by some as of great importance. But I do not consider facilities for looking up queens, the most important requisite of a good hive; and I find in the fact of its having so few frames a very serious objection. In order to have the proper number of square inches of comb in a few frames, they have to be made comparatively large, which is the case with these. The frames are so large that, in very hot weather, when the hive is exposed to the sun, and the combs are full of honey, they break down and fall out of the frames, making a very undesirable muss in the hive. I have had this to happen repeatedly, even in his "double wall "self protecting hive," so called, with all the ventilation that could be given it. By the way, he has lately made a change in the ventilation, by enlarging the entrance (an improvement) and by closing the inch and hole covered with wire cloth, in the bottom board, and making another in the back and about an inch above the bottom board. I do not know which is according to "scientific principles," and whether an improvement or not. It is true this breaking down of combs might be prevented by shading the hive; but the "best hive in America" ought not to require this, as we do not always want our hives shaded. There are several other minor objections to Mr. T.'s hives, but a still more important one will be mentioned presently.

Five years ago Mr. T.'s hive might have been considered a very good one, but "the world moves," and no single department has made greater strides of progress in the last ten years than apiculture. His, and all similar hives, lack one important feature to make it adapted to the present wants of all progressive bee-keepers. No hive should now claim perfection without being easily provided with extra frames for surplus honey to be used in the honey extractor, and these frames should be of the same size as those in the body of the hive. It should be well adapted to the use of the division board, with room at side or ends for surplus frames, or be easily and conveniently converted into a two-story hive, with frames in the upper story the same size as below.—Tall hives with large frames are not well adapted to this purpose. The two-story Langstroth works well. Mr. Gallup's and Mr. Truesdell's style of hives can be easily arranged with additional frames at each end, or on top, or both. Now, I do not say that any and every hive thus arranged is perfect, but that no hive should lay claim to being the most perfect hive made, without being adapted to such an arrangement; for it is important to give for the breeding capacity of the queen, and to furnish a sufficient amount of empty combs for the accumulated workers, and thereby obtain the greatest yield of honey with the extractor, or without it.

Besides "puffs" of particular hives, we have numerous articles on general principles to be observed in their construction—some approving and some condemning the shallow form of the Langstroth hive. In the August number, Mr. J. W. Seay pitches into the shallow hives on general principles and preconceived theories. Now, theories do well enough for fine talk, and are good when substantiated by facts. But facts are the things for the practical man, and one fact is worth a dozen theories. Mr. S.'s theory and deductions therefrom, in regard to the production of early brood, I do not find confirmed in my experience and observation; and the facts of the case warrant a very different conclusion. A tall hive is thought best for wintering out doors, for we know the bees will place their stores above them when there is room. We know, also, that they do not cluster on the honey, but below it, and the heat from them ascends and makes their stores more accessible in cold weather. But how is it with the breeding early in the season? Mr. S. says, "the bees in order to hatch brood as the weather becomes warm in the spring, will cluster at the larvæ end of said combs, &c. Now what he means by the "larvæ" end of the comb, I do not exactly know. If he intends to say that they cluster at the bottom of the brood comb, so that the heat will ascend and warm up the upper part of the brood comb for the extension of brood, facts do not warrant the assertion; for it is well known that bees do not commence breeding at the lower end of the comb, except in a very rare case, when they have had the hive full of honey and have consumed none or only very little during the winter. As a general thing, they commence breeding near the centre, and frequently in the upper part of the hive. I have known them, in the Thomas' hive, to commence breeding within two inches of the top bar, with plenty of honey at the sides. Now, when breeding is commenced near the top, the extension of brood in a tall hive must be chiefly downward—away from the heat generated in the cluster, instead of towards it. And for this reason, as the warmth of the cluster will be diffused laterally more readily than it will extend downwards, more rapid breeding will be induced in the shallow hive than in the deep one. This accords exactly with the facts of the case. If Mr. S. only means that the bees cluster on the larvæ and around it, he is correct; but this does not alter the conclusion. In stating that the bees will cluster and commence breeding in one end of the low hives, leaving the other end empty and cold, Mr. S. does not fairly state the case. They generally cluster near the centre of the hive, and the heat will radiate towards both ends.

But, we have had enough of theory. How stand the facts? I have had Mr. Thomas' hive—one of the best of the tall ones, and the Langstroth hive, side by side, for several years. Last winter I prepared eight of each kind for wintering on their summer stands, somewhat similar to the plan recommended by Mr. Langstroth. In the latter part of the winter one colony in a Langstroth hive was lost, not from any fault of the hive, but from my carelessness. At the opening of the spring, a thorough examination was made of each hive, with the following comparison: *First*—loss of honey was about alike in each kind; some of each had nearly exhausted their stores, while others of each kind had more than enough, so that when equalized all had plenty. *Second*—loss of bees: In the Langstroth hives this was light. In four of them a spoonful of dead bees could not be found, The other three had a few dead bees. In one of the Thomas' hives no dead bees were found. In two others not a great many, but more than in the worst of the Langstroth hives. The other five had a great many dead bees. The colonies were much reduced—one to a mere handful, with frames and hive badly soiled with their discharges. had to unite it with another hive. The T. hive that had no dead bees, was in a fence corner, nearly buried in snow all winter. *Third*—mould on combs. In all the Thomas' hives there was more or less mould, except one. No mould in any of the Langstroth hives. *Fourth*—quantity of brood. *Decidedly the most in the Langstroth hives, at the time of the examination, and it increased faster, and they swarmed earlier than the tall hives.* My first swarms came from the flat hives every season. It may be said that the colonies in the flat hives, having lost only few bees in the winter, were stronger and would generate heat and naturally increase faster, and swarm earlier from this cause. I grant it; but one of the tall hives lost no bees, and was very strong, and yet did not breed as rapidly as the other.—I make this statement without favor or partiality. I expected a different result. I have no hives—patented or unpatented, no territory, or interest in any patent, to sell.

I have made a hive on the plan of Mr. Gallup and Mr. Truesdell; which I believe possesses many advantages, and is capable of being used more ways, with the same size frame for all the different styles, than any hive I have seen described. The brood apartment is the plain box of Mr. Gallup—eleven inches wide, fourteen inches deep, eighteen inches long, or as much longer as may be desired. The frames are hung across the narrow way. I have given greater depth and less width than my model, because I wanted to winter out-doors, and because I wanted to use the same frames in a non-swarmer, with two tiers of boxes at sides. We can use this hive—1st. as a simple frame hive, with large room on top for surplus boxes.—2d. By extending the length to any desired number of frames, frames for surplus honey may be put in each end, for emptying with the extractor.—3d. It can be easily made a two-story hive, with frames in the upper story the same size as in the lower one.—4th. By having movable side-boards, it may be made a non-swarmer on Mr. Quinby's and Mr. Alley's principle, and piles of honey boxes may be put on the sides and top. I have one made this way with thirteen frames, sixteen five pound boxes form the sides, and three twelve pound boxes on top, all enclosed in a suitable case. This is made somewhat like Mr. Alley's hive ; but I think is better than his. To avoid one extreme—the flat form, he has gone to the other, and has his hive too tall and too narrow. From all that I have read from our best German and American writers on the subject, I think I have hit the "golden mean" of width and depth. The great beauty of it is that the same frame can be used in all the different styles ; and that we may have a variety of hives with but one size of frame.

I call this hive, with its non-swarming and box arrangement, the "Quinqueplexal-Duplex-Combination-Non-patented-Superfluous-Honey-producing-hive." It is said "there is nothing in a name,," but if I could only get friend Price's "*Reversible-Revolvable*" attachment, with the privilege of adding the name, there would be considerable improvement in adopting this compellation for the modified arrangement.

Thaddeus Smith.

Pelee Island, Ontario, Sept. 10, 1870.

[For the American Bee Journal.]

The Thomas Hive.

Mr. Editor :—I wish, with your permission, to correct some few errors which have appeared in the Journal with regard to the Thomas hive in Canada.

Mr. J. H. Thomas, in the July number of the Journal, says—"It is the principal hive in use in Canada." Again, in the correspondence of the Bee Journal, September No., page 71, Mr. H. Lipset says—"The Thomas hive is all the go in Ontario." How is it that men will make such extravagant statements? Now for a few facts, as the bee-men say.

One of my neighbors, an intelligent and scientific bee-keeper, having been bred to the business, received a hive from Mr. Thomas, and after giving it four or five years' trial, says he would not use the hives if he could get them for nothing.

A Mr. Conger, of this county, whose son was an agent for the Thomas hive, told me lately that he had thrown the Thomas hive aside, in favor of a hive similar to Langstroth's shallow form.

Mr. Walter Taylor, of Fitzroy Harbor, Ontario, formerly an agent for the Thomas hive, wrote me last winter that he would get his bees out of the Thomas hive as soon as possible, as he had found the shallow Langstroth hive was "just the thing."

I know of no person, making bee-keeping a "business," who uses the Thomas hive. After all, the Canadian bee-keepers ought to feel proud of having a man among them who has produced the "best bee hive in America." Where are Dr. Conklin, D. L. Adair, and J. M. Price with his revolvable, reversible—and so on to the end of the chapter? Echo answers—nowhere !

This has been a good year for bees in this part of Ontario. Yet a man living five miles from here, and using the Thomas hive, says it has been a very bad season.

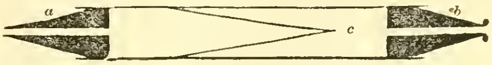
I commenced in the spring with forty-five hives, several of them being very weak from want of honey. I now have eighty-seven good stocks and sixteen hundred (1600) pounds of box honey, besides about ten frames full. Two stocks that did not swarm produced eighty-five (85) pounds each, of box honey. My first swarm of the season, which came off June 13th and was put in an empty hive, stored sixty-six (66) pounds of honey in boxes, besides losing a frame of honey which melted down with the extreme heat which prevailed this summer.

The foregoing, of course, does not come up to the big stories we read in the Journal ; but it is very good for this section of Ontario, and pays very well.

My hives contain nine frames, 16¾ inches long and 8½ inches deep, inside. The frames run from front to rear. The hive is similar in shape to Langstroth's shallow form. I obtain earlier swarms and more surplus honey than any other person in these parts using a deeper form of hive. While I put boxes on the top I would not use any other form of hive. I think that Alley's new style of Langstroth hive is the best for obtaining surplus honey in boxes that was ever invented. I constructed two hives last year, as an experiment, similar to Mr. Alley's. One of these gave me the sixty-six pounds before mentioned.

W. Baker, in the September correspondence of the Journal, says that his bees swarmed without making any preparation. Many of mine did the same thing this summer. In opposition to this, on examining a hive five days after a swarm left it, I found a laying queen, and from the number of eggs I saw, I should think she had been laying twenty-four hours at least.

In looking over the Bee Journal, I am surprised to see that so many bee-keepers still use a pan of chips, old rags, rotten wood, &c., with which to smoke their bees. I use a pipe, which for convenience and efficiency, I think cannot be surpassed, notwithstanding Mr. Thomas to the contrary. It consists of a tin tube, six inches long and one inch in diameter, having a funnel soldered to the inside, about 1½ inches from one end, as shown in the annexed figure :



The funnel or cone is punched full of small holes. Into each end of the tube a bored plug, *a* and *b*, is nicely fitted. The plug *b* is cut so as to be easily held between the teeth. To get the smoke, draw out the plug *b*, fill the space *c* with some combustible material, then with the plug *a* in the mouth, it may be lighted with a match, like a common pipe. When lighted, insert the plug *b* in its place, and blow away. I have used cut tobacco till lately, but now find dry corn silk much better. The advantage of this pipe is, that it can be held in the mouth, and the smoke directed where it is wanted, while the hands are free to operate with. This is a great convenience, especially in taking off boxes.

GEORGE CORK.

Bloomfield, Ontario.

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[For the American Bee Journal.]

Shallow Hives, or Deep?

MR. EDITOR:—In the September number of the Journal, Dr. B. Puckett criticises an article of mine in the July number, and asks me to explain wherein the shallow Langstroth hive is lacking.

When I wrote the article referred to, my object was to show that the shallow hive could be altered to a different form, and that those who were using it, and considered it too shallow, need not throw their hives away. I said it was *not* a good hive for wintering in the open air, or for early spring. I did not think it necessary to give my reasons in detail, why it was not good; for that matter I considered had been already fully discussed in the Journal. But as Dr. P. requests it, I will explain.

For wintering in a cellar, the hive is perhaps good enough. But I do not want to be *obliged* to house my bees. Sometimes I have plenty of room in the cellar, and sometimes not. If the hives are of suitable form for wintering in the open air, I can let them remain out, when it is not convenient to carry them in. But the great objection to them is in early spring. Dr. P. asks if it is the fault of the hive that the *old* bees die off, or that bees are destroyed by cold winds? Of course it is not. But if a swarm is not breeding enough to make up that loss, there must be a fault somewhere. When we take bees from the cellar, we expect that they will have brood in all stages, from the egg just laid to young bees just gnawing out. We expect too that the queen will continue to deposit eggs, even more rapidly, because of the excitement produced by the bees flying, and especially if they are fed rye meal, as mine always are. I said, after they had been out *a month*, there appeared to be fewer bees than when first carried out. We expect a loss the first day or two after taking them out, but soon afterward, the bees should be increasing; and at the end of a month, which brings it into April, there should be a decided increase. In deeper hives, according to my experience, it is so; and the deeper the hive the greater the increase.

The reason why the shallow hive is not good for early spring, as I understand, is this: as soon as severe weather is past, we want to confine the animal heat as much as possible to the hive, that the bees may breed rapidly. Consequently we shut off all upward ventilation. The coldest part of a hive is near the entrance and so along the bottom board. The farther the bees get from the bottom, the warmer they find the temperature. These hives being so low, before the bees get out of the way of the cold air coming in at the entrance, they are bumping their heads against the top. And, instead of spreading the brood in a circle, which is the best form to economise heat, they are obliged to carry it along horizontally, and after all work at a disadvantage.

In a tall hive they can draw up and get well out of the way of the cold air from the entrance. The top of the hive being small, *the animal heat, brood*, and bees are all compact, and in the best condition for rapid breeding. The faster they breed, the faster they can breed, as there are more bees to keep up the heat; and as it naturally ascends, the smaller the hive is across the top, the more compact the heat will be kept.

A friend, who for some years has been using a very tall hive, after trying for a long time to persuade me to use some of them, finally gave me one in the spring of 1868, and requested me to put a swarm into it. Says he—"You may let it stand anywhere through the winter; the bees will be sure to do well." I have used it, and found that the bees increase in it nearly twice as fast in April and May, as in the shallow hive. The result is the same in his apiary.

Mr. Alley, who at one time so vigorously advocated the shallow hive, has since become convinced of his error, and invented what he calls the new style Langstroth hive. The shallow frames are set up endwise, which gives it extreme depth. In the September number of the Journal, 1869, page 54, he says—"I examined fifty stocks of bees in shallow hives last spring (and many of these were larger colonies than any I had); but none of them had as much sealed brood as mine."

When he first got up this hive, and before any of them had been used, a friend of his had one, and was requested by Mr. A. to show it to me and get my opinion upon it, not letting me know where it came from. I refused to express an opinion, except on the point of wintering, in which I considered it could not be beat.

The great depth of combs, together with the protection given by the outer case, makes it one of the best hives for wintering that I have seen. It has a large amount of box room for surplus honey, which is needed for a swarm that has been well wintered, and that has increased well during the spring. But let him just turn the frames down to a horizontal position, making it a shallow hive, and I will guarantee that one-half of the box room will be ample.

I have attempted to explain wherein the shallow hive is lacking, and now have a favor to ask of Dr. P. He says: "The Langstroth hive could be made deeper very easily, without Mr. R.'s patchwork." Will he tell us how it can be done, and still retain about the same number of cubic inches?

CALVIN ROGERS.

West Newberry, Mass., September 10, 1870.

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Honey is the most elaborate of all vegetable productions.

[For the American Bee Journal.]

Wintering Bees.

We republish the following from the A. B. J., Vol. IV., page 109, at the request of a number of new subscribers. We regard it as probably the least troublesome and most successful mode of out-door wintering yet devised.

It is settled beyond a doubt in my own mind, by the experience of others as related in the BEE JOURNAL, and by my own experience for several years in the apiary, that bees to winter well, must have sufficient ventilation to carry off the excessive moisture which accumulates in well stocked hives. This moisture arises partly from the exhalations from the bodies of the bees, but mostly, I think, from the surrounding atmosphere, which constantly holds in suspense a greater or less amount of moisture, according as its temperature is higher or lower. The warm atmosphere of the hive is capable of holding a considerable quantity, until it is condensed by coming in contact with the cold walls of the hive, at some distance from the cluster of bees. There it condenses, first into minute drops of moisture, and afterwards, if the cold increases, into frost. The constant accumulation of the quantity, by repeated thawing and freezing in a hive that has no efficient means of ventilation, gradually encroaches on the space occupied by the bees, finally reaching those on the outside of the cluster. These grow benumbed, cease to eat, lose their vitality, grow cold, the frost forms on their bodies, and they die where they stand. The frost continues to penetrate the cluster, if the cold weather is prolonged, until finally the last bee dies covered with frost. The warm days of spring then melt this frost, and on examination, the whole mass of bees are found dead and as wet as if just dipped from a basin of water. I found one hive in that condition last spring. The entrance to this hive was left open, but the honey-board was left on tight, without any upward ventilation, as an experiment. All my other colonies wintered well on their summer stands, having their entrances open three or four inches wide, and the front and rear openings in the honey-boards (half an inch wide, and extending the whole length of the hive) uncovered, but the middle opening closed.

For the coming winter I have adopted Mr. Langstroth's plan with some modifications. I shall omit the outside covering of the hive, believing that it is better to have the hive of a single thickness of board, say seven-eighths of an inch, in order that the heat of the sun may easily penetrate it, and warm up the hive almost daily, thus giving the bees an opportunity to bring to the central part of the hive fresh supplies of food from the outer combs. This plan *may* lead to a somewhat greater consumption of honey; but if a swarm of bees will give its owner from fifty to one hundred pounds of surplus honey in a season, as mine have done the past summer, he ought to be entirely willing to have them eat all they need during the winter. At all events, one of two things must be done, to winter bees successfully, in addition to their having a supply of food and thorough ventilation—they must either be kept in a repository where frost cannot enter, as a cellar, trench, ice-house, or the like; or they must be put where the sun can warm them up occasionally.

I have removed all the honey-boards, placed two one-half or three-quarter inch strips across the frames, and covered the whole top of the frames with any old woollen garments that could be found about the house.* These need no cutting or fitting. Pack them in as you would pack a trunk, (the roof or cover of my top box is movable, and I like it much better than the old plan of having it nailed on,) two, three, or half a dozen thicknesses will make no difference. The moisture will pass through as readily as the insensible perspiration of our bodies will pass through our bed covering. The hives will remain dry and the bees warm. I have no fear of losing a single swarm the coming winter, although several new ones which I bought are quite weak, owing to the sudden close of the honey harvest a month earlier than last year, in consequence of the drought.

R. BICKFORD.

Seneca Falls, N. Y., Oct., 1868.

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* In a subsequent communication in Vol. V., No. 10, Mr. B. says that in place of old woollen garments, he covered the frames last winter "with a sort of cotton batting comforters made precisely like a comforter for a bed; and that he likes these much better than old carpeting or old clothes." He had one made for each hive, costing about twenty cents a piece. "By lifting one corner of these comforters, the condition of the hive can be seen at a glance. The bees are always found clustered up against these warm comforters, and communicate over the tops of the frames, instead of through the winter passages.

[For the American Bee Journal.]

Upward Ventilation.

MR. EDITOR:—I once found a bee-tree, with an excellent swarm in it. I cut it down Gallup-fashion, and moved it home, in the month of February. The entrance was a hole, about three inches in diameter, just at the top of the cavity. The tree was a green butternut. I sawed it off, short enough to handle easy, and set it up in the yard. The combs were bright and clean, and there were not over a dozen dead bees in it when found. It swarmed twice in June following, and next winter I stopped up the entrance at the top, and made another within six inches of the bottom, by boring a two-inch hole through the side. All this time I kept the top closed tight. The following winter I came near losing them with dampness and dysentery. Next winter, I closed up the auger hole, and opened the top entrance again. They wintered as nice as a pin—no dampness or dysentery. In April I thought I could still better their condition, by making the entrance smaller, and reduced the entrance to one inch in diameter. Within six days after, I came near losing them with dampness and mould. Experimenting still further, I noticed that the fanners or ventilating bees would, in hot weather, be arranged in this manner—one set at the lower edge of the entrance, with their heads outward; the other set at the top of the entrance, facing inward, driving out the hot hair. I then reduced the size of the entrance still more, and found that in a very short time nearly the entire swarm would issue and cluster on the outside of the log or gum. Enlarging the hole to three inches again, the bees would soon return inside and resume work. I kept that log hive four years, and then sold it to a neighbor. Whenever I wintered it with the natural entrance open, there was no dysentery and no unnatural distention of the abdomen; and on their first flight in the spring, they would not even speck the snow.

In wintering bees in the Wellhuysen hive, made of willows and plastered with cow manure, they would never have the dysentery—not the least sign of it. The combs were always bright and clean, and the bees always in as good condition as they were in midsummer. I have wintered bees in Canada, in the old-fashioned straw hive, with the entrance, summer and winter, a two-inch hole in the centre at top; and they always wintered well, without the least sign of dysentery, even when they would not leave the hive from the 10th of October to the 1st of May—nearly eight months. In that climate they are nearly always confined from the 1st of November to the 10th or 20th of April, or about five months. When I lived there, there was scarcely ever any honey stored after the 15th of August, yet bee-keeping pays in that climate. To encourage our northern bee-keepers, I will say that, according to my experience, there and in the West, I think the flowers secrete more honey, in the same length of time, there than here. Our atmosphere is rather dry, while their's is moist and humid—just right for the secretion of honey.

ELISHA GALLUP.

Orchard, Iowa.

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[For the American Bee Journal.]

Alley's Improved Langstroth Hive.

MR. EDITOR:—For twenty years I have had experience in bee-keeping, and had within that time as many different styles of bee-hives in my apiary; but, taking everything into consideration, the advantages derived from Mr. Alley's, proves it to be the best I have yet seen. It has the best shape, the greatest amount of animal heat for wintering bees, and as for storing honey, it allows as much room for surplus honey as the largest stock would need.

These are only two among the many advantages it presents. Many more might be mentioned. I simply state these, as I consider them the most important. Brother bee-keepers, who are about to purchase, should not fail to give it a trial.

LEVI FISH.

Danvers, Mass., Sept. 10, 1870.

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Intelligent practice is very different from blind practice; or, in other words, practice preceded by a sound theory is evidently far superior to practice without theory.—TALBOT.

[For the American Bee Journal.]

Ventilating the Gallup Hive in a Damp Cellar.

The cellar of my house is nearly underground. Its size is 38 x 28 x 7 feet, inside measure. The temperature during the winter is usually 38° F., with occasional extremes of 35° and 41°. It is damp, and not specially ventilated. A stairway from the porch and one from the kitchen, furnish all the air; the latter being very much used during winter time. In this cellar I have usually wintered some of my bees, for many years—trying various methods and different kinds of hives, with the result always, till last winter, of more or less mouldy combs. I then had among the lot four strong stocks and Gallup hives. These I had setting up three feet from the ground, with caps and honey-boards removed, and the loose top cover laid directly on the hives; and by means of hard wood wedges pushed in between the lower edges of the hives and the bottom-boards, and also between the upper edges and the top covers, I gave them one-eighth of an inch air all round the hives, above and below, except six inches in length at the entrance, where I gave them one-fourth of an inch, so that the bees could get out. In this condition the hives were left all winter. The bees remained very quiet, humming almost inaudibly, and paying little attention to the light of a candle which was carried in many times a day. Scarcely any came out to die; and not over half a teacupful died in each hive. They consumed comparatively little honey, and when the hives were examined after being set out in the spring, the combs were all dry and free from mould. In my experience absorbents used on a hive in a cellar have always caused combs to mould. Who would think of laying on top of his hives a damp straw mat, or a pile of damp corncobs? And yet it is all about the same thing. Give the proper amount of air, and let it pass off unobstructed. I shall try a larger number of hives the coming winter. Many thanks to Gallup.

HENRY CRIST.

Lake P. O., Stark county, Ohio, Oct. 4, 1870.

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[For the American Bee Journal.]

Bee Hives, and Shipping Honey in Frames.

There has been much said on hives in the columns of the Bee Journal. Some are said to be too deep, and others too shallow. But after all, profit in dollars and cents is the great object; and to secure this in the shape of surplus honey, three things are requisite—*first*, strong colonies of bees; *second*, a good season with plenty of pasturage; and, *third*, the placing your surplus honey boxes or frames as near as possible to the brood in the main body of the hive. There are two ways to accomplish this: *first*, by using the shallow form of hive, with frames say seven or eight inches in depth; and, *second*, by using the side gathering or storing hive. I prefer the latter, with frames twelve inches deep; and this for three reasons. *First*, if the apiarian has no repository for winter quarters, his bees are right in these for wintering in the open air. *Second*, the brood and cards of honey can be so adjusted as to bring the former next to your honey boxes, if necessary; as we never want more than one full frame of honey between the brood and the surplus honey boxes or frames. *Third*, in the manipulation of colonies there is no comparison between the side storing hive, and the top storing. With the former, when the lid is removed, we have access to the frames, without the intervention of surplus honey or other boxes. Top-storing hives are now behind the age.

Those using shallow frames must, in this latitude and climate, have a house for wintering their colonies, and when bees are removed to their summer stands in the spring, the lid that covers the second-story or surplus honey chamber, should fit on the brood chamber, that the honey chamber may be left off till the time comes for placing surplus honey boxes on your hives. By this means all the heat rising from the bees is secured and diffused through the main hive or brooding chamber for hatching the eggs; and the bees multiply as rapidly for aught I can see, and swarm as early as in the twelve inch frames. I have used one hundred shallow hives, with frames eight inches in depth, for three years; and when I suffer them to throw off natural swarms, they swarm as early, sending off as many and as large swarms as taller hives.

In 1869, I had gathered six thousand pounds of fine surplus honey in frames in the top receptacles of my shallow hives. A large proportion of this I shipped, in the frames, to C. O. Perrine & Co., Chicago, Ills. They paid me twenty-five cents per pound for it, frames and all. Should any honey raisers in the West wish to sell to a good man, I should recommend them to Mr. Perrine. I have trusted him with quite large amounts at a time, and always found all right at settlement day.

Shipping Honey in Frames.

To do this properly and safely make the box or case in which you ship only wide enough to receive the length of the top bar of your frames, and one and a half inch deeper than the depth of the frame. Make the case tight and pitch the inside with rosin and bees wax, so that the leakage of the combs will not be lost.

In packing the frame honey, first pierce the projection of the frames through with an awl, invert it and place in the holes one inch finishing nails, then place the top of the frame down and crossways in the case, and with a tack hammer drive your nails. Place the next frame by the side of this first, corresponding as built in the hive, if it can be; and place them so as slightly to touch. In filling the last end of the case, place an iron rod on the head of the nail to drive it, as you cannot play the hammer.

When the case is full, take two strips (common lath) just long enough and wide enough to fill the case tightly from end to end, and cover the ends of the frames and fit tightly against the sides of the case; drive an inch nail through the strips in the end piece of each frame, and the frames will be perfectly solid.

I shipped from one to two hundred pounds in a case, in this manner, and Mr. Perrine tells me the average was not over two frames broken down per case, and no loss from leakage, the boxes being pitched inside.

A. Salisbury.

Camargo, Ills., Sept. 6, 1870.

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[For the American Bee Journal.]

The New Smoker.

I introduce to the notice of bee-keepers a new smoker for bees, believing it will be pronounced the best, until a better one is found.

It will be found the best for ease of lighting, and to retain fire, and as burning with equal facility, rotten wood, old rags, or a combination of wood and rags; and it will not annoy the operator every few minutes by going out.

To make one, procure a piece of wove wire. I use very fine wire cloth, but suppose that a coarser article will answer. The piece should be twelve inches wide and from twelve to eighteen inches long. Take of old rags a sufficient quantity to make a roll about 2 or 2½ inches thick and twelve inches long. Roll the rags evenly and firmly together, and then lay them at one end of the sheet of wove wire, and roll the wove wire over them pretty tightly, and bind with wire. Light at one end with a match; and your smoker, if nicely made, will burn from two to four hours. Or if it be only half filled with rags, then fill out lightly with damp rotten wood, and you will have a big smudge.

John M. Price.

Buffalo Grove, Iowa.

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[For the American Bee Journal.]

Reply to Mr. Worthington's Inquiry.

Mr. Editor:—I see in the June number, page 264, Mr. Worthington asks how to examine bee stores, &c., in the American hive. Here is the way I do. Remove the cap and honey box; blow a little smoke through the slot in the top bar of frames, to quiet the bees; remove the movable side, and with your pocket knife, you can easily run the blade between the top bars, loosening them; lift out the frames, placing them in a skeleton frame made to hold them; and in this way you see *exactly* the condition of your bees. In returning the frames to the hive, you have only one place to watch to prevent killing bees, that is the top.

J. W. Sallee.

Pierce, Mo.

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If asked how much such contrivances against the moth will help the careless bee-man, I answer not one iota; nay, they will positively furnish him greater facilities for destroying his bees. Worms will spin and hatch, and moths will lay their eggs, under the blocks, and he will never remove them. Thus, instead of traps, he will have most beautiful devices for giving effectual aid and comfort to his enemies.—*Langstroth's "Hive and Honey Bee."*

[For the American Bee Journal.]

Bees in Bennington, Vermont.

Mr. Editor.—The season in Bennington has been very good for bees, that is, considering that they were in poor condition last spring. Many colonies died last winter in this town, and I should think it safe to say that one half our bees then perished for want of honey. I was not at home in February to attend to mine, and lost five colonies before I was aware of their being so short of supplies, which I discovered only after losing my best stock of Italians. It was quite warm in January, and one day was so like spring that I carried my hives all out, and for a couple of hours it seemed like swarming time. The weather was so mild that my bees began to breed considerable, and so used up their honey. When I removed the dead bees from one of my hives, I found brood in three combs sealed over, a spot as large as my hand in each, besides eggs and larvæ.

February was very cold, and a terror to light swarms. I set my hives out again the last of March, and had then only fiften stocks. Three of these I united with others, thus reducing the number to twelve. One of these got discouraged, and tried to form a partnership with another colony, but got killed in the operation. Thus, by the first of May, I had only eleven colonies remaining, and they were very weak. I fed them every day till I began to see they were getting stronger. Then, thanks to the Bee Journal, I knew enough to double their feed as they increased in numbers and the hives in weight of brood, for they could not of course get much honey till the first trees blossomed. The weather then became warm and pleasant, and the bees got a good start in life, so that when clover and red raspberries bloomed, they were soon ready to march out and take a limb of a tree on their own account. I soon had twenty-five swarms and began to think hives and all would swarm. Besides those we hived, four swarms took the wings of the morning. By the way, a great number of swarms ran away this year to the woods. I found a small swarm about three miles away from home. They came over a barn I was painting, and clustered near by. I hived them in a powder keg, and carried them home at night.

I have taken two hundred and twenty-five (225) pounds of box honey from my bees, besides ten six pound boxes partly filled, of which I take no account. I have twenty-one hives to winter. They are very heavy, too heavy, I fear, to winter well; but hope for the best. Bees within half a mile of mine have not done anything at all; because they had no care or feeding in the spring, and when summer came they were merely ready to begin their spring's work. I think it pays to feed bees as well as other stock.

I have only two swarms of black bees, and some hybrids, the rest are pure Italians. I received two queens from Mr. Cary this season, and inserted them all right. They were, to all appearance, accepted and owned for four or five weeks, when one day I found one of them thrown out dead on the bottom board; and if it had not been for the Bee Journal on the superseding of queens, I should not have known what the trouble was. The other is all right so far, and the young bees from both queens are beauties. I never saw finer, and am well satisfied with them. My bees are all descendants of Mr. Cary's stock, and another year I shall get some more from him and other breeders, to avoid breeding in and in.

I have never yet seen a honey extractor at work, but there is one within a few miles of me and I am going to see it. If it proves to be the one thing needful in my case, I shall go for one another year.

I have procured some of the Rocky Mountain bee plant seed from Mr. Green, and if it is good, as I have no reason to doubt it will be, I shall let you know all about it.

The season has been quite favorable here, not as dry as it was in some places; and our crops are very good, with an abundance of fruit. Taking every thing into consideration, I am well satisfied with my bees and their labors last summer. When I bought my bees, a man in the same business blowed a good deal and said it would not be a great while before I would run out with my Italian bees and wintering in the house. Last year (1869) he had in the summer sixty-six colonies. He fed two barrels of sugar this spring, as he says, and now has twenty or twenty-one colonies. Who has run out? I fed half a barrel or one hundred and twenty-five pounds of sugar. He don't "fool away his money for Bee Journals, nor Italian queens."

C. H. Bassett.

North Bennington, Vt., Oct. 5, 1870.

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[For the American Bee Journal.]

The Season in Massachusetts.

After reading the various accounts in the Journal as to how bees have done in other parts of the country, I think it will not be out of place to let its readers know what has been going on in Massachusetts, or rather in a part of that State.

About May 20th our bees commenced to collect honey rapidly, and from that time to June 7th, honey was very abundant, and I never saw bees put into the hives and surplus boxes faster. From June 7th until July 1st they did very little. In fact we had then ten days in succession when no honey was collected; and by the 1st of July pasturage failed altogether, as it generally does here in New England. I never knew bees to put honey into boxes later than July 12th, and that for only one year, since I have kept bees.

Perhaps it will be new to some of the readers of the Journal to know the fact that bees do not collect honey here, in Essex county, as a general thing, later than the first week in July; and this season they did not work later than the last day of June. Very little honey was put into boxes between June 7th and July 1st. Had the season held out as it gave promise in May, honey would have been plenty in Massachusetts.

I have a few hives that did very well, considering how short the honey harvest was, and to let some of your readers know that Alley can raise honey as well as queen bees, I enclose a short report that was intended to be shown to the "Honey Committee," at the Essex County Fair; but as I was the only person who exhibited bees or honey (except four small boxes by Mr. Gould, of Ipswich,) I did not submit it. Of course Alley got the highest "premium," under such circumstances. I suppose if I say that the stock that did best was in one of Alley's hives, some one will think that this article is meant only for an advertisement. Well, I cannot help that; so here goes for the report, and all who do not want to believe it, can accommodate themselves in that line, and I will find no fault. I do not, myself, believe more than only just what I think is true, even when I see it in the A. B. J. :

Hive No. 1, filled sixty-eight 2½lb. boxes, and cast one small swarm. The honey was sold at thirty-five cents per pound, box and all. Weight of boxes and honey 170lbs.; weight of the sixty-eight boxes empty 34lbs.; net amount of honey stored 136lbs., which, at 35 cents per pound,

is	$47 60
One young swarm	3 00
Whole amount	$50 60

Hive No. 2. This was a stock transferred from a box hive to a movable comb hive, May 26th, 1870. It filled thirty 3lb. boxes, and the honey was sold at thirty-five cents a pound, without including the boxes. Net amount of honey stored 75lbs.; which, at 35 cents per pound, is...$26 25

Hive No. 3, filled two 15lb. boxes, and cast two swarms. The first of these swarms filled a new hive, from which I have taken twenty-five pounds of honey, and it now has enough to winter on, without feeding. The second swarm I used to rear queens, and it was worth five dollars to me.

Value of first swarm	$7 00
Value of second swarm	5 00
55lbs. of honey at 35 cents per pound	19 25
Whole profit from Hive No. 3	$31 25

The profit from these three hives is one hundred and eight (108) dollars.

I omitted to say that I took twenty-five pounds of honey from Hive No. 2, as late as August 20th. That hive now has honey enough to winter well.

Since September 20th, the bees have put in a considerable amount of honey, but not in surplus boxes. Even my nucleus hives put in enough from September 20th, to keep them—making a saving to me of twenty-five (25) dollars.

If other bees in this vicinity have done as well as mine, few colonies will starve in this county next winter. My article is getting long. I will stop just here.

H. Alley.

Wenham, Mass., Oct. 3, 1870.

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Virgil recommends the hollowed trunk of the cork tree as a hive, than which no material would be more admirable, if it could only be easily and cheaply procured.

[For the American Bee Journal.]

Bees at Binghamton, N. Y.

Mr. Editor :—Having gained so much instruction and pleasure from the perusal of your valuable paper, I think it no more than right to send you a report of the season's operations here. But there are so many of your contributors so much more successful, that my account will appear tame in comparison; yet when compared with what has been done by my box and Kidder hive neighbors, it seems to be quite a success.

The season has been favorable in this locality, though rather dry for many crops, yet honey was more or less abundantly yielded all through the season. The weather has been such that the bees could gather honey almost every day, from the first of May until the present time.

We placed ten (10) swarms in the cellar in the fall of 1869, all of which wintered in good condition and came out strong in the spring. Four of them were Italians, and six blacks, seven in movable frames and three in box hives. Those in the box hives were transferred in April; the black queen killed about the first of June, and young, fertile Italian queens of my own raising substituted for them. One hive was broken up into nuclei in May, and also the first swarm. We have run from six to ten nuclei all through the season, to obtain, if possible, a pure queen for every hive; but we have not succeeded in getting all full marked workers in more than half of the stocks, as our box hive neighbors kept us flooded with common drones.

We have taken this season, as surplus, eleven hundred (1100) pounds of honey—eight hundred (800) pounds being comb or box honey, and three hundred (300) pounds extracted; and have increased our stock to fifteen (15) full swarms. Besides the surplus, we have forty Langstroth frames filled with comb and honey, averaging two pounds each. This is not counted as surplus, but reserved for next season's operations.

After transferring last spring, and cutting out drone combs, our hives lacked from one to two frames each, from a full complement. Having constructed a *slinger* this season, we are enabled to lay by a goodly store of combs for future use.

Our best stock gave us twenty-four six pound boxes, weighing one hundred and forty-four (144) pounds, and twenty-five (25) pounds of extracted honey; besides ten frames of brood and honey, taken from the body of the hive at different times in the season and replaced with empty frames. It is now in good condition.

This is the first season that we have practiced non-swarming on the true principle of making box honey, and had we had the knowledge and experience that we now have, we are confident we could have attained still more favorable results. We are no friend to increase, and would never increase more than is absolutely necessary. Nor can we understand how some men are so well satisfied with a large increase and a small amount of surplus. Yet we have not seen any feasible plan put forth whereby a large amount of surplus can be made without a slight increase.

After having tried both kinds to our entire satisfaction, we think we can get as much profit, and far more pleasure, from one Italian swarm in a Langstroth hive, than we can from twenty-five (25) swarms of black bees in box hives.

J. P. MOORE.

Binghamton, N. Y., Oct. 3, 1870.

[For the American Bee Journal.]

Bee Report from Champaign Co., Ills.

MR. EDITOR:—I write to let you know how bees have done here, this season. I had last spring fifty-one (51) stocks, nearly all in my own hive with frames, and on the top four glass boxes, holding ten pounds each, box and all. I sold two stocks for thirty-six dollars, and they earned for the man who bought them one hundred (100 dollars, in swarms and honey.

During the blooming of the trees in the spring, bees had a week to gather honey. Then they did not get any more until the white cover blossomed, and we had a rain on the 10th of June. From that time until the 25th of June bees did splendid; but after that to the 1st of August, they did not collect as much as they consumed. Then we had the fall flowers, and they have done very well.

I bought ten swarms on the 23d of June, but before they commenced work forage failed. I fed them and four of my own late swarms; one hundred pounds of sugar and two gallons of honey. I then stopped until the first of September. Then I fed them over one hundred pounds more of sugar, doubled up three colonies and broke up two. So I now have seventy-two (72) stocks, all of which I think will winter.

My bees have made about 800 or 900 lbs of honey. To strengthen the weak ones, I took off boxes full of honey and bees, and gave them to weak swarms. Thus they got bees and honey at the same time. In doubling swarms, I open both hives and take five of the lightest frames from one, and five of the best from the other, put them in and brush all the bees out, and they will not fight.

Bees have done better in the country than in the village, as our village is nearly overstocked. The Spanish Needle is a good honey-producing plant; also a tall flower called Wild Artichoke.—It has been very dry here; but rains have gone in streaks. Two or three rains come in the right time, would have been worth a thousand dollars to me. The white clover dried up early. The bees visited the groceries and were lost by thousands. My bees are nearly all Italians, which I consider the best.

I gave a description of my hive in the Journal, last year. Every one uses it here. It costs about four dollars, and can be made for a little less.

We have had no frost yet, and the bees are collecting honey still, and will do so as long as the Wild Artichoke lasts. I feed my bees by taking off one of the boxes, and put on a saucer with some pieces of comb in it. Then dissolve sugar and fill the comb and saucer. They will take it up every night. Feed till you get them heavy enough.

I divided ten swarms, and they did well, though I divided them too late in the season. If one is going to divide, it should be done early.

Last year was a splendid season for honey. Thirty-two weak stocks gave eighteen swarms, and twenty-six hundred pounds of honey.

DR. H. CHAFFEE.

Tolono, Ills., Oct. 3, 1870.

[For the American Bee Journal.]

White Clover crop.—Buckwheat yielding no Honey.

MR. EDITOR:—I once more take up my pen to advocate bee-keeping. As I said in my last article that my apiary was increasing, I have now ten new swarms from eleven old colonies, and I am every day expecting some second swarms to issue, as queens in the hives that sent out swarms, can be distinctly heard uttering the word "peep! peep!" and according to more able apiarians than myself, that is the true sign that second swarms will issue in a few days, if the weather be favorable.

The other morning I was out where my bees are. I suppose you have a strong idea of what I saw, when I raised up one of my stands. There were a half dozen of the fattest full grown moth worms almost any one ever saw. They were lying back in all their glory, after gorging themselves with the rich feast on which they no doubt had luxuriated. I made short work of them, however. Those round, plump, greasy-looking fellows seem to think, from all appearance, that they are lords of creation. But I soon dislodged them from their snug quarters, by means of a sharp-pointed iron bar made for the purpose. "They slept rather late that morning, and were caught up with."

The piping of the young queen was something new to me. I told some of my bee-raising friends of it, and they hooted at me, calling me a deceiver and impostor. I referred them to Mr. Langstroth's book, and Mr. Quinby's, and told them that they should subscribe for the American Bee Journal, or even read it, and they would find that what I said in regard to the young queen's piping, was strictly correct. My friend Mr. K. (whom I converted) in a conversation with Mr. S., asked him why he did not take the American Bee Journal. "Why," replied he, "they can print anything in a paper, and there are fools enough to believe it." I have known Mr. S. for about fourteen years, and know that he has had bees all that time. Yet he has not any more stands now, than he had ten years ago. (It is no wonder.)

The honey product of this season seems to be good. Bees are storing great quantities of surplus honey. The weather has been very favorable for honey-gathering, for the past six weeks. White clover has been in bloom for the last fifteen days, and will probably continue till the middle of July. From it the best honey is gathered. In the spring the early flowers were cut off by sleet, which fell about the 18th of April.

I am now preparing to sow a large field with buckwheat, exclusively for my bees, though some writers in different papers state that the bees do not get any honey from this plant. Whether it is a honey-producing plant or not, the bees seem to visit it as regularly when in bloom, as if there was something about it they are very fond of. Perhaps I can throw some light on this subject. Last fall I had three hives of bees, that came late, while nearly all the other flowers were exhausted, and buckwheat was their only resource for supplies for winter. They worked like white-heads, as long as the blossoms lasted; and after that went through the winter safely, though they were weak the following spring.

I will now give my opinion on ventilation, for the benefit of Mr. A. Green. My mode is as follows: I leave the summer entrance open, and also upward ventilation all winter. I have always, heretofore, wintered my bees in the open air. If Mr. Green uses hives with movable caps, he can close the summer entrance and take off the surplus honey-boxes, substitute straw or fine shavings in their stead, and replace the cap as before. This is the best way that I have yet tried. I intend this for winter. In summer I give them all the ventilation needed—that is, I leave all the ventilators open.

I have drawn out this article longer than I intended, and close with greeting to all bee-keeping friends.

T. H. Woody.

Pleasant Valley, Mo., June 18, 1870.

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[For the American Bee Journal.]

Honey-producing Plants.

Mr. Editor:—Not having much to do, at present, I thought I would give your readers an account of my observation and trial of the different kinds of honey-plants around us here. It may be of some service to new beginners, as I have tried all kinds I could hear of and procure, that were reputed valuable for producing honey.

Among the best are Alsike clover, Melilot clover, White Dutch clover, Borage, and Buckwheat. These, with us, just fill out the season from June to October.

The plants named in the following list, I do not consider of any account here, for honey, viz.: White Mustard, Black Mustard, Rape, Chickory, Mignonette, Lucerne Clover, and the Rocky Mountain Plant. Kale did not come into blossom, and I cannot speak of its value as a honey-yielding plant.

R. Miller.

Rochelle, Ill.

☞ Some of the plants named as of no value for bees, are highly praised, in other localities.—Ed.

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I once met with an individual whose breath, shortly after he was stung, had the same odor with the venom of the enraged insect.—*L. L. Langstroth.*

[For the American Bee Journal.]

The Rocky Mountain Bee Plant.

(Polanisia purpurea.)

Mr. Editor:—About the middle of August, by invitation of Mr. Alfred Green, of Amesbury, a friend and myself visited his place to see the bees work on the Rocky Mountain bee plant. We arrived there about eight o'clock in the morning, and found the plants swarming with bees; one, two, and in some cases three bees upon the same flower.

Mr. Green informed us that they were still at work on it, the day before, at seven o'clock in the evening. It was amusing to see them gather pollen from it while on the wing, the stamens extending so far out that they could not reach them after alighting on the flower.

The plant was growing on a rather light soil, not highly manured, and stood from two to three feet high, branching out in all directions. Planted in the spring, it comes into blossom soon after the white clover disappears, and continues until killed by the frost. If planted in the fall, as Mr. G. says it can be, it would blossom much earlier. I think this is the best plant to cultivate for bees, as it fills a vacancy, (in this locality) between the white clover and the fall flower.

Alsike clover I have raised, commencing in 1860; and find that, on my soil, bees prefer it to white clover. But as it begins and ends blossoming at the same time with white clover, it is not of so much value for bees, as it would be if it came a month or so later.

As the seed of the Rocky Mountain bee plant is valuable for poultry, and probably for swine and other farm stock, when made into meal, it would perhaps pay to raise it for the seed alone.

Calvin Rogers.

West Newbury, Mass., Sept. 12, 1870.

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[For the American Bee Journal.]

Silk Weed or Milk Weed.

Well, Mr. Editor, I saw in the Bee Journal for July something concerning the injuriousness of the silk weed or milk weed. After reading the article it struck me that there was some of this weed in the vicinity of my apiary, and next day set about to search for it. On going out west, on the low ground on the prairie, I found ten flowering stems of this weed, and seven of the ten had bees fastened on them. Some of these bees were dead, and some still living, though they could not leave the flowers, being fastened in them by their hind legs. The bees seemed to have been gathering honey.

Last Monday, as I was going to a neighbor's, I saw one of these flowers, three quarters of a mile from my home. I stopped to see if I could find any bees on it, and found an Italian just alive. I am glad there are not many of this species of plants in this neighborhood.

R. Miller.

Rochelle, Ills.

[For the American Bee Journal.]

Honey Dew.

Mr. Editor:—I have at last caught the chaps that rain down what is called honey-dew. In localities where the common willow grows, I found the most. On the Missouri river bottom, which is literally covered with willows, I find in June and July they are covered with small insects, which at a certain age get wings and fly off in large swarms, going for miles. Sometimes they will stop in the air, over some trees, and fly around in a circle for an hour. If you get them between your eye and the sun, you will see them discharging the so-called honey-dew. They will stop in one place, the same as gnats or mosquitoes, which you have often seen about as high as a man's head.

Now, if any person really wants to test the correctness of this, let him go to a willow grove and he will find those insects (or willow lice) just before sun-down; and getting the willows between him and the sun, he will see them rising from every part of the tree, in small squads, and collecting till they form a large swarm. Then they will be seen discharging continually a fluid which resembles a fine sprinkle of rain. I have often seen those same insects discharging a fluid on a limb, where they were hatching; and then saw large ants, wasps, and yellow jackets working on it. And I often wondered how it got on the very tops of the trees, where no insects were to be found. I think this observation will settle the matter about the origin of honey-dew.

Bees have done very poorly here until now. The golden rod is in full bloom, and the bees are doing well.

H. Faul.

Council Bluffs, Sept. 6, 1870.

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[For the American Bee Journal.]

Caution.

Mr. Editor:—Through the columns of your indispensable Journal, allow me to say to my brother bee-keepers, and "all whom it may concern," have nothing to do with a hive called the "Multilocular Protoplastic Protean Hive," though it is no doubt superior to any or all you have in use. Let us not step upward only one step at a time to the use of this hitherto excelsior hive; but let us take at least two steps at once, to that hive and those new principles that "beat" *all*. Yes, all the long and toilsome labor of a Huber and a Dzierzon is totally eclipsed; and entirely snuffed out are such lights as Langstroth, Gallup, Quinby, Wagner, and many others, who formerly shone so brightly as "instructors." Your theories, gentlemen, are forever "cast in endless shade." The great revolution of nature that moves all things, has thrown before my vision this wonderful apistical domicile. I have scanned it closely, and now let me say to you, Rev. L. L. Langstroth, talk no more of laterally movable frames, since this great hive has "a place for every frame, and every frame in its place." And you, "far-famed Gallup," say no more of division boards and economy of heat. 'Tis useless, as these frames are made extra large, and small frames for surplus set in the top of the large ones, which space is left in free communication with the brooding apartment, till again filled with surplus. Speak not, Mr. Wagner, of compactness of form, as this marvellous habitation stands erect, human like. And now the sturdy German (Dzierzon) must yield the palm and transfer it over into Indianapolis, (Ind.) the centre of bee-gravity—the place where one hundred colonies are made from one in a single season! Can we not plainly see the dawning of a day when "the land shall flow with honey," and each and every individual will supply himself freely with this "sweetest of all sweets," and the apiarian turn his attention elsewhere for a livelihood?

James Heddon.

Dowagiac, Michigan.

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[For the American Bee Journal.]

Correction Requested.

Mr. Editor:—My attention has been called to an alleged error of statement in my article on page 72, Vol. VI., of the Bee Journal, wherein I say, "Mr. Langstroth was among the first to introduce to the notice of the bee-keepers of America the invaluable honey extractor." Now I claim that the statement is strictly true. Mr. Langstroth was *among* the first to introduce the honey extractor to the notice of the bee-keepers of this country, taking upon himself the responsibility of manufacturing from a bare description, and extensively advertising the machines for sale; thus risking pecuniary loss in case it should prove unpopular, before any other person in this country, except the editor of the American Bee Journal, spent a single dollar upon them.

Still, in order to give every man due credit for any assistance given to bee culture, I will here, with pleasure, state a fact in this connection that had escaped my recollection at time of writing the previous article, namely, that the first *mention* of the machine of Von Hruschka in the English language was made in the American Bee Gazette,* page 85, September No., 1866, edited by Rev. E. Van Slyke, in an article translated from the German, by the editor. And to this article, Mr. Langstroth was most probably indebted for his first idea of the honey extractor, as Mr. Van Slyke writes me as follows—"Mr. Langstroth himself, who visited me at my office the very next month after the publication, spoke in terms of the highest enthusiasm of the article, and said that from my description as published he was about to construct a machine for honey extraction," &c.

R. Bickford.

Seneca Falls, N. Y., Oct. 5, 1870.

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*Shortly thereafter merged in the American Bee Journal.

[For the American Bee Journal.]

Why are Two Queens Sometimes Found in One Hive?

Mr. Editor:—Mr. A. Green, in the October number of the Journal, gives an account of finding two queens in one hive. Other correspondents have also given us their knowledge of similar facts; but none have, I think, given us any reasons for such exceptions.

Last fall I bought an Italian queen from a reliable breeder. She came recommended as A No. 1. I received her on the 8th of September. All the workers sent with her were dead, except two; and she was herself so benumbed by cold that I had quite a time of it bringing her back to vitality. Finally I succeeded in getting her quite lively, and introduced her to a tolerably weak swarm. On the 10th of October finely marked Italians were flying in front of the hive. I spared no pains in wintering. (I winter out-of-doors.) In April she had filled three cards of brood. I then gave her a card of drone-comb. She would not look at it, and I moved it back and put in its place a card of worker-comb, which she filled with eggs almost instanter. I then put the drone-comb in the middle of the cluster, and got about fifty drones. Of course I was stimulating, and kept plenty of honey in the hive. I put in other worker-comb, but she refused to lay any more. I then took out a frame to start a nucleus, and in about a week after, when examining the old stock, I found queen cells started and the old queen on the comb, apparently all right. In due course a young queen was hatched, and after destroying the queen-cells, she remained with the old queen ten days before she was fertilized, and at least a week after she was laying. At the end of three weeks the old queen was gone.

Now, what does this prove? Simply that the queen was chilled in coming by mail, which interfered with her prolificness, rendering her supersedure a necessity for the future welfare of the colony. She was tolerated in the hive by the new queen and bees, having lost that distinct individuality peculiar to the queen bee, and consequently become to them (the workers and young queen) no more than a common bee. I cannot help but conclude that when such exceptions occur, the course relatively is the same.

Frederick Crathorne.

Bethlehem, Iowa, Oct. 9, 1870.

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It cannot be too deeply impressed on the mind of the bee-keeper, that a small colony should be confined to a small space, if we wish the bees to work with the greatest energy, and offer the stoutest resistance to their numerous enemies. Bees do most unquestionably "abhor a vacuum," if it is one which they can neither fill, warm, nor defend. Let the prudent bee-master keep his stocks strong, and they will do more to defend themselves against all intruders, than he can possibly do for them, even though he spend his whole time in watching and assisting them.—*Langstroth.*

[For the American Bee Journal.]

The Coming Convention.

Mr. Editor:—We would like to attend the prospective convention of bee-keepers, which is to assemble the coming fall or winter, and to take by the hand some of the many correspondents we have followed through the columns of your Journal, and hear their opinions by the word of mouth, but we must forego that pleasure at present. We are poor and have not straightened up yet the ravages of war. We are rebuilding as fast as our means will admit, and hope in a few years more to see our once desert looking country "blossom as the rose." We have lost our substance, the toil of years, and in bee parlance, though driven out and robbed of comb and honey, are allowed to return in a bad season, to recuperate.

When these bee conventions become yearly in our country, (and I hope they will,) we will be sure to attend, if within the range of our flight. We would be delighted to see the different specimens of honey and bees which should be in attendance, and ahead of anything to see except the phiz of Novice, Gallup, Grimm, and their ilk, side by side the different hives in working order. A great majority of the hives with movable frames are patented, many are not, and we would like to see them on exhibition, opened, and the points of excellence each contains, shown. We don't mean the sub-venders of different patents, who are travelling over the country, and attend at the different fall fairs, who never kept or owned a hive of bees, know nothing of the nature and habit of the insects, and who move up to you and talk as learnedly on the bee as Langstroth or Dzierzon could; but men of experience and veracity, who have tried and used for several seasons the hive on exhibition, through poor as well as rich harvests; and hives of different forms and capacity, which you could criticise, and the good qualities, or the real or imaginary defects of which a man might point out, without danger of being called a mutton-head and ignoramus. There are several different patents in our country, and if they are not thrown over the fence the first season, they are sure to go the way of all trash the second. Some unfortunate purchasers try to get their money back by transforming the hives into troughs to feed the cow in; others convert them into boxes for hen-nests. In many of these cases, however, it is through the ignorance of the keepers that they do not succeed.

One year ago, Esq. Boring, a Justice of the Peace from one of our rural districts, thought to outstrip his neighbors in honey and bee-keeping, and ordered a hive with which you could control swarming, catch the drones, keep out moths, and the Lord only knows what its owner didn't claim for it. Draw out the chamber, take out honey enough for supper, and replace the drawer, and all is right, nice, and snug! I believe they call it the Buck-eye, patented by Mitchell. Esq. Boring was eager to have bees in, and couldn't wait for a natural swarm, but drove in a fine stock. He was so well pleased with it and its workings, that he Buck-eyed his whole apiary; and upon inquiry a few days since, he informed me that he would lose nearly all his bees. The first time he drew out the chamber everything worked fine. The second time it was rather tight and glued up. A month after that he thought it would take a small yoke of steers to pull out the chamber of frames, and during the summer nearly the whole fell a prey to the moth-miller. However, he should not condemn the hive after this slight trial. It has been an unusually poor season, and none but the strongest stocks stored any surplus.

W. P. Henderson.

Murfreesboro, Penna., Oct. 6, 1870.

[For the American Bee Journal.]

The Queen Nursery.

Under the above heading, Mr. Gallup, in the Journal for October, gives his experience with the queen nursery, which, with him, appears to be a perfect success. I wish to give my experience, and ask Mr. Gallup and others why it is so different from his.

I made fifty cages $1\frac{1}{2} \times 1\frac{3}{4} \times 1\frac{3}{4}$ inches, four sides of very thin wood, and one side covered with wire gauze, and the other with a piece of glass slipped in grooves in the two wooden sides, so as to be moved up or down for a door. In each of these cages I placed a piece of honey in comb (unsealed), with the cells in natural position; and then placed the cages in frames, on slots inserted across them, so as to hold three tiers of six each, or eighteen to a frame. I then took out two centre frames from good, strong hives, and put one of these frames containing cages in their place. Some very strong colonies, some were medium. To some I gave upward ventilation, by leaving off the honey boxes and raising the cap. On others I left the honey boxes. I then awaited the result. Some queens hatched in fourteen days from starting the cell; some in sixteen days; two or three in twenty-four days; and some *never* hatched.

Many of the young queens died in the cages in from twelve to twenty-four hours after hatching; very few lived to be five days old—the time given by many writers for them to mate with the drones; only six or seven out of about one hundred lived two weeks. The queens, when first hatched, were put in fertilizing cages such as described by N. C. Mitchell, but *never* were fertilized.

Now Mr. Editor, will Mr. Gallup or some one else tell me why my experience differs so widely from that of Mr. G.?

Sister cells, cut from the same comb as some of those that were put in the cages, hatched in from fourteen to sixteen days, were duly fertilized, and are now alive and well. Hence it could not be any defect in the stocks they were raised from. In some of the cages, I put two or three workers, to feed the young queens; but still the latter would die, and leave the workers to eat the honey left in the cages.

If queens require any other food than honey, why did not the bees give it to them through the wire gauze on which they clustered in great numbers? Some of the cages were put in colonies that had fertile queens at liberty, but most of them were put in queenless hives.

The cells were mostly put in on the ninth day from starting the cell.

I shall be pleased to see replies to this in the next number of American Bee Journal.

H. Nesbit.

Cynthiana, Ky.

[For The American Bee Journal.]

Do the Right!

Friend Bickford, I wish to shake your honest fist!

Your matter is *sound*, your argument JUST!!

To render substantial aid to our "venerable Tutor" is an imperative duty. Let us see to it then, *at once*, and

DO THE RIGHT!

I don't feel at liberty to enlarge on the subject, being "only an Englishman."

Walter Hewson.

Wickham-breaux, Kent, England, Sept. 28, 1870.

[For the American Bee Journal.]

The African Honey Tree.—Inquiry.

In the "*Poultry Bulletin*," J. M. Wade, of Philadelphia, writes—"A man, I can hardly say *gentleman*, came into the store yesterday, with seventy-one humming birds, which he had shot the day before in his own yard. He said some years ago he brought a honey tree from Africa, and thousands of humming birds would come to it in one day. Where did so many come from?"

As it may be in the interest of bee culture to know what can be learned about the honey tree of Africa, will some one who is informed give the readers of the American Bee Journal his knowledge of it? stating its growth, whether bees visit it, its uses, whether it is hardy, length of time in flower, in what month and at what age it blooms, and how it is propagated?

E. Parmly.

New York.

Early in October, I examine carefully all my hives, to see that they are in suitable condition for wintering. If any need feeding, they are fed at this time. If any have too much vacant room, I partition off that part of the hive which they do not need. I always expect to find some brood in every healthy hive at this time, and if in any I find none, and ascertain that it is queenless, I either at once break it up, or if it is strong in numbers, supply it with a queen, by adding to it some feebler stock. If bees, however, are properly attended to, at the season when their young queens are impregnated, a queenless colony will seldom be found in the fall.

Langstroth.

THE AMERICAN BEE JOURNAL.

Washington, Nov., 1870.

☞ The residence of the Rev. Mr. Semlitsch is not at Gratz, in Styria, as, in consequence of a slight omission, was erroneously stated in our last issue; but at Strasgang *near* Gratz.

The attention of those who are unfortunately suffering from the prevalence of foul-brood in their apiaries, will doubtless be arrested by the communication, in this number of the Journal, from Dr. Abbe, of New Bedford (Mass.), announcing that he has succeeded in curing that disease, as it existed in several of his colonies; and that an efficient and easily applicable remedy has at length been devised for the dreaded and devastating evil. Dr. Abbe deserves the cordial thanks of bee-keepers, both in this country and abroad, for so generously and promptly making known his remedy and the mode of administering it.

Last fall we suggested to those who found it necessary to supply their bees with winter food to add a portion of glycerine to sugar syrup or dissolved candy, to prevent crystillization; and we learn that it was advantageously used. We have since learned that gum tragacanth is now employed for the same purpose, by some of the German bee-keepers. This gum, dissolved in water, forms a thick mucilage, which may not mingle so readily with the food as glycerine does; and the latter is hence a more manageable and probably cheaper article, especially as it forms besides an excellent spring stimulant, though still too high-priced to be freely used.

A bee-keeping friend has procured for us a quantity of seed of the Partridge Pea (*Cassia chamœcrysta*) mentioned by one of our western correspondents, (Mr. Ingels, of Oskaloosa, Iowa,) as an excellent honey plant. It was in bloom here from the middle of July to the middle of October, and frequented by that bees, in crowds, all the time.

This plant is usually classed among weeds, and where it occurs, is regarded by some as one of the *pests* of the farm; but as it is an annual, it ought not to be difficult to get rid of it by proper management, when its presence is undesirable. Blooming during the interval between spring and fall pasturage, it constitutes an important resource for bees, here and in other districts, at a period when the native vegetation fails to furnish supplies.

In the third volume of the Transactions of the American Philosophical Society, Dr. Greenfield of Virginia speaks of the Partridge Pea as furnishing means to recruit worn-out lands, by its decomposition in the soil when plowed under. It was, we understand, originally introduced for that purpose, in the District of Columbia, by the Hon. Benjamin Stoddert, while Secretary of the Navy; and it would probably answer well as a substitute for red clover, where from poverty of soil, the latter could not yet be grown.

We hope to be able to make satisfactory arrangements for the distribution of the seed among bee-keepers desiring to make trial of the plant, and if successful, will state particulars in our next.

We learn from Mr. Adam Grimm, of Jefferson (Wis.,) that his crop of surplus honey, this year, is over 15,000 lbs., and that he "could take at least 10,000 lbs. more from his hives, and still leave the stocks heavy enough to winter well." Such a result as this must be calculated to unsettle the notions of those who "have kept bees many years, and *know* there is nothing to be made by it!"

We intended to give a brief history of the opposition to the meeting of the National Convention of Bee-keepers at Indianapolis, showing when and where it originated, and what were the obvious motives and objects of those most active in the business. But as it appears to be a "fixed fact" now that the Convention will be held at the time and placed designated, we shall save ourselves the trouble of hunting up musty records in the limbs of things forgotten.

☞ Since the above was put in type we have learned incidentally that it was resolved at Utica by the N. E. Bee-keepers Association to hold another Convention elsewhere, though particulars have not reached us. We sincerely regret this proceeding on various accounts.

CORRESPONDENCE OF THE BEE JOURNAL.

Trenton, Ills., Sept. 13, 1870.—The forepart of this season I think was the poorest I ever saw in this neighborhood. Last winter was a very warm and open one, and the bees dwindled down very much, so that nearly all stocks were quite weak before spring. Then we had a severe snow storm on the 17th of April, with two or three freezing nights, that killed nearly all the peach blossoms; and this was followed by a period of cold high winds through May. The first two weeks of June there was cloudy, drizzling, chilly weather, so that bees could not fly more than about half the time. The consequence of all this was, late swarms and very few of them. Not more than one-sixth of the stocks swarmed, and many of the latest of them starved. It was very dry from the middle of June to the 13th of August. Then, for a week, it rained nearly every day; at the end of which some of my hives had not more than a pound of honey remaining. Since that time they have been doing very well. Most of my hives were filled up, so that they commenced working in the surplus boxes about the middle of last week, and some of them have now as much as fifteen pounds in the boxes.

I would like Novice to tell us how he gets his board and frame into the top of his hive, if his hives are all of one size. I have a few of the two-story hives made by the National Bee-hive Company at St. Charles, Illinois, and I cannot get a frame into the top story in any other way than perpendicular, as the top bar of the frame is longer than the inside of the hive. I have tried one to see how it would work.—C. T. Smith.

Dowagiac, Mich., Sept. 12—We have had just half a surplus honey harvest, here, this season. Since I have been in the bee business, I have learned that the surplus harvest depends entirely upon the clover and basswood blossoms, in this vicinity; which is probably the case all over the State. When we have a wet season clover fails, but basswood produces well; and when a dry season, *vice versa*. Reverses from abundance to starvation take place within a few miles of each other. I am located now in the midst of clover and basswood, together with the best spring and fall pasturage I have ever seen. After losing seven-eighths of my bees last winter, you can easily guess the condition of the remaining six colonies. Four of them were merely skeletons, and the other two very inferior stocks. Yet, with the aid of a three cent feeder of my own invention, (which works to perfection,) and one and a fourth dollar's worth of sugar, I have succeeded in marketing five hundred and twenty-three (523) pounds of box honey; and with the aid of old combs have increased my stock to twenty-two (22) colonies, all strong and heavy—too heavy I fear, for their own good; and I have as yet no emptying machine. This, I think, is doing very well (see Langstroth's "Hive and Honey Bee," page 177) for a bee-keeper of only two years' experience.—I came near forgetting to mention that I have Italianized all my new stocks. I use top-bar hives mostly. Am using four or five frame hives on the sly!—J. Heddon.

Winchester, Iowa, Sept. 13.—The season of 1870 has not been any of the best here, nor of the poorest either, as swarming and honey gathering has been moderately good. The American Bee Journal well deserves the support of bee-keepers.—I. N. Walter.

Rochelle, Ills., Sept. 17.—This has been the poorest season that we have had here for some years. I got only five new swarms from forty stands, and merely one hundred pounds of honey. Since the buckwheat came into blossom the bees have done well. They will average about fifty pounds to the stand; and that is doing very well, in such a year as this has been. Alsike clover is now in blossom, and the bees are working very busily on it.—R. Miller.

Breesport, N. Y., Sept. 20.—My bees have done well in gathering honey, this season; but gave me no swarms during swarming time.—J. H. Hadsell.

Oskaloosa, Iowa, Sept. 28.—I have one hundred and ninety colonies of bees that have done well this year, and are in fine condition for winter. I stored away one hundred and twenty-nine colonies in my cellar last fall, and the same number came out in good order in the spring. I sold them off to about one hundred, from which I came one to winter with the above number (190), principally Italians.

Enclosed please find specimen of a bee plant. What is it? It blooms from first of July to last of August profusely and is visited by bees thrice as much as buckwheat. I have tried borage, melilot, alsike, mustard, and find nothing to equal it. I calculate to cultivate it, in order to give it a fair and full trial. I have secured about a peck of seed. The great advantage is that it blooms at a time when most needed in this country. I grew it this year alongside of buckwheat that bloomed at the same time.—S. Ingels.

[The plant enclosed is the *Cassia chamæcrista* or Partridge Pea. It is an annual, growing in most sandy soil, and is common in the south. It grows here on the eastern branch of the Potomac (the Anacostia), and bees derive plentiful supplies of forage from it during eight or ten weeks in summer, and it is then almost their only resource. They gather pollen from the blossoms, but the honey is secreted by a small cupshaped gland situated below the lowest pair of leaflets, and is supplied abundantly for a long period.—Some of the farmer's here-abouts affect to consider it a pernicious and ineradicable weed; but as it is an annual and known to be an excellent fertilizer when plowed under, it would seem to indicate slovenly management not to be able to subdue it readily where not wanted.—Ed.]

Vervilla, Tenn., Sept. 24.—I consider the Journal cheap at any price for the bee-keeper, and wish it could be published oftener.—Dr. J. M. Bell.

Warsaw, Minn., Oct. 3.—This has been a poor season for bees here, except in basswood time.—L. B. Aldrich.

Cedarville, Ills., Oct. 5.—My bees have done well this season.—Robert Jones.

Meredith, Pa., Oct. 4.—Bees did very well on white clover in this section this season, but very poorly on buckwheat. My sixty stocks did not give me sixty pounds of buckwheat honey surplus, all told; although they are all in good condition for wintering.

I do not think that alsike clover has been overestimated for bee pasturage. I had three-quarters of an acre of it this season, and I never saw a piece of land so covered with bees as that was while it was in bloom, and they gathered honey from it very fast.—M. Wilson.

Orchard, Iowa, Oct. 6.—It is raining heavily today, yet the weather is warm and we have not had a particle of frost yet. Bees have done storing surplus honey for the season.—I shall give the result of the season's operations as soon as I can get the time. At present I am up 4 A. M., and do not get home till 8 and sometimes 9 o'clock P. M. I must have a little relaxation from such excessive hard labor, before I can confine or control my thoughts sufficiently to write for publication. From the past season's operations with the honey extractor, I can endorse all that Novice claims over and above the old mode of getting surplus in the comb—E. Gallup.

New Bedford, Mass., Oct. 6.—The season for bees has been remarkable. Commencing well, the dry weather soon made forage very scarce during the blooming of clover and basswood, so that by the first of September there little or no surplus stored, and all the colonies were very light. But during that month, mostly after the fifteenth, the bees gathered honey as fast or faster than they ever do in this locality in June. It was obtained from the wild aster; and the stocks are now heavy and in fine condition for winter. Even now there seems to be no cessation of their labors. This is true of all the neighboring towns; nearly every hive in them having been examined by me during my professional drives.—E. P. Abbe.

[For The American Bee Journal.]

How May Progress be Taught?

Mr. Editor:—As the columns of the Bee Journal are made the medium of disseminating apicultural knowledge, by asking and answering questions, I have this question to ask in reference to the class of bee-keepers who use box and gum exclusively. How shall we reach these, and dispense the necessary knowledge among them? Let us endeavor to devise some effective means. Your Journal is doing the work as far as they can be induced to take and study it; but the number is comparatively limited. Many of these people, when they see an improved bee-hive, unconsciously exclaim to the owner, who happens to be a practical bee-keeper:

"Mr. B.—What do you call that?"

B. "That, sir, is a bee-hive."

Q. "What do you have so many sticks in it for?"

B. "Those are what we call *frames* for the bees to build their combs on; each frame separately giving them the means by which the combs may be removed from the hive, for the purpose of making artificial swarms, furnishing honey from the rich to the poor colonies and strengthening weak ones."

Here the querist exclaims in perfect amazement: "What will the bees be doing while you are lifting their combs out?"

B. "If you treat the bees right they will not harm you; besides we can have a protection, made of wire cloth, or what is more handy, a piece of bobbinet to place over the face; and by keeping the hands wet, the bees will not sting, unless they are badly treated."

Q. "What a fool I have been. I have kept bees all my life, and never before knew what I needed. I suppose if you can lift out the combs, as you say you can, you could find the king's house and perhaps the king himself?"

B. "There is no such bee in the hive."

Q. "What! no king bee! Why I always understood that a colony of bees without a king and ruler, whose mandates are strictly obeyed, will not be worth anything."

B. "The bee you allude to is the mother of the colony and is called the queen; but she has no house or particular spot in the hive in which she dwells. The worker-bees, however, construct what are called queen-cells, in which queens are reared; but they never remain in them, except only while in embryo."

Q. "Why, Mr. B., you seem to know as much about bees as the man I heard a neighbor speak of. He said there was a man living in Iowa that reared king bees (perhaps you would call them queen bees) of a superior and different kind from the common bee, and brought from some other country."

B. "Yes, we rear our own queens, or in other words we cause the bees to do so, by our artificial process. This we do for the purpose of furnishing fertilized queens to old stocks, when their queens are taken away, as is the case in producing artificial swarms."

Q. "Then you can make bees swarm, and rear queens at your will?"

B. "Yes."

Q. "But do you never find a hive that is not in the notion of swarming? I always thought that bees knew when they wanted to swarm, better than man did."

B. "Bees have only instinct, and were not intended in the beginning to produce their own swarms. They were created for the benefit of man, and if that had been the way swarms were intended to be made, they would be made in conformity with natural laws that govern them, and swarming would always be successfully performed in perfection. Man was given knowledge, by means of which it was intended he should manage his bees in his own way, independent of any will they may have. The penalty for man's neglect in this respect is the loss of his bees in various ways—such as swarming and departing to parts unknown, loss of queen, extermination by robbing, &c. Man, therefore, endowed with knowledge and judgment, knows more of the management, for his benefit, of the internal parts of the hive, than the bees, with mere instinct, can possibly know."

Q. "I perceive, sir, that these are the days of our ignorance spoken of in Holy Writ, though I was never able to see it till now. Some of my neighbors, a few years ago, purchased bees which were in common boxes and gums. They brought them home and set them down in a remote corner of the yard or garden, to live or die, as they might or could, with no attention whatever, except when the time came to secure some of their delicious stores, which, with shame I confess, is the practice in all the neighborhood now."

B. "Your statement is only too true, if indeed the facts are not worse."

This is a fair specimen of the questions asked by common bee-keepers.

While the inventive genius of the age has given power to water in the form of steam, causing the face of the earth to be alive with machinery and wheels that are almost daily circumscribing its surface at lightning speed—yea, the lightning itself has, as it were, been snatched from the heavens and made to do the bidding of man—yet the bee-hive, till within the last fifteen years, has in a measure remained as it may have been in the garden of Eden. The invention of the frames was the dawn of a new era in bee-keeping, by means of which we have advanced step by step up the hill of science to the present advanced stage, while progression still looms up and fades away in the distance. The mysteries of the hive that remained hidden from the beginning till now, are, many of them, solved and being solved, and all the various causes of the destruction of colonies plainly disclosed. The practical man, properly informing himself, need not lose a hive; while, in the old way, twenty-five per cent. of all the bees kept in the country are lost every year. While we have reached these advances, there are many things yet in embryo, that will be reached by and by—such as the control of fertilization, which enables the bee-keeper to select both queens and drones, and secure the purity of the race we prefer to cultivate. We also expect a forcing-box, hiver, and swarmer, all combined; and means which will enable the bee-keeper to compel a plurality of queens in every colony, without division, in the same apartment.

But I am wandering from my purpose, which was simply to start the inquiry—how shall we reach, and dispense the necessary knowledge among those who still keep their bees in unimproved hives? The State governments should foster bee culture as they foster other agricultural pursuits. Why not have a separate department for bee culture in every State, under the charge of a man qualified to superintend it and diffuse its advantages in the community? In some of the German States the number of hives will average hundreds to the square mile, and that too in soil comparatively sterile. How was this brought about? Simply by encouraging and fostering the business. And cannot the American States produce the same results? Millions of barrels of honey go to waste annually in this country, merely from the want of bees to gather the nectar of flowers. What, say you, bee-keepers of Iowa, shall we not make a united effort to secure the means by which those who have bees in our beautiful State shall be furnished with power (knowledge) to effect the gratifying change? The bees of every hive now in the State, producing ordinarily ten, twenty, or thirty pounds, may be made to produce annually from one hundred to two hundred pounds.

Mr. Gallup will please accept our thanks for his practical and instructive communications in the Journal. Will he not favor us with an article on this subject. Let Iowa be the first to take a stand in favor of promoting bee culture.

Monroe, Iowa. J. W. SEAY.

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[For the American Bee Journal.]

Argo's Puzzle.

R. M. Argo has found a job for Gallup.

That bees will sometimes build worker-comb when there is no queen present is a positive fact, but the rule is almost invariably drone comb. The fact that they built one-third drone comb is no proof that they did not have an old queen. If they are gathering honey abundantly, they are very apt to build too much drone comb; and sometimes they do so in such cases, even with a young prolific queen. But with such a queen, when they are gathering just sufficient to build comb and store but little honey, the rule is almost invariably worker comb exclusively.

That bees will frequently make preparations for swarming immediately after being hived is another positive fact, especially when the season is good and the newly hived swarm is large. The first case of the kind that came under my observation, occurred a number of years ago in Canada. I hived an extra large swarm for a neighbor, sometime in the forenoon. About four o'clock in the afternoon the shout came across the mill stream, "my bees are going off!" I left all, and followed them to a large pine stub. I cut down the stub, split it open, took out the bees, put them in the same hive. That night they were sold as an *unlucky* swarm, removed 3½ miles, and in just eight days from the time they were replaced in the hive, they sent out a large swarm, which left for the woods. The bees then belonged to my cousin. They left on Saturday. On Sunday I went to church close by my cousin's, and he informed me that his bees had filled their hive and swarmed, and the swarm left for parts unknown. I was rather incredulous, but after church went and made an examination. Sure enough, the hive was completely filled and several sealed queen cells in sight, with several more unsealed near the bottom of the comb. The hive was a box twelve inches square by fourteen inches high, and when the swarm was hived I had to put on a large box before the bees could all be got in the hive. That box was nearly filled with comb, but the bees that went off took the honey with them. On the fifteenth day they sent out a second swarm. So much for purchasing an *unlucky* swarm!—Since then I have had several cases of the same kind come under my observation; one in the summer of 1868, and another this summer. The one in 1868 was not a large swarm, and they did not fill their hive before sending at a swarm. The case this season was a large artificial swarm made by putting together bees from several hives, with a queen.—I should be strongly inclined to think that, in your case, they started queen cells for the purpose of superseding the old queen. When a queen has begun to fail at about swarming time, and forage is abundant, they cast a swarm. In my case, in 1868, it was no doubt caused by the bees superseding the old queen. I had a case this season, where the first swarm came out with a young queen, leaving the old queen in the hive, with plenty of sealed queen cells. In another case, when making an artificial swarm, I found the old queen and a young one both fertile, with several sealed queen cells.

Orchard, Iowa. E. GALLUP.

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THE amputation of *one* of the antenna of a queen bee appears not to affect her perceptibly, but cutting off both these organs produces a very striking derangement of her proceedings. She seems in a species of delirium, and deprived of all her instincts; everything is done at random; yet the respect and homage of her workers, towards her, though they are received by her with indifference, continue undiminished. If another in the same condition be put in the hive, the bees do not appear to discover the difference, and treat them both alike; but if a perfect one be introduced, even though fertile, they seize her, and keep her in confinement, and treat her very unhandsomely. "*One may conjecture from this circumstance, that it is by those wonderful organs, the attennæ, that the bees know their own queen.*"

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That which is profitable only to the speculating business, though it be theoretically plausible, deserves not to be recommended or accepted, if it be not calculated to produce beneficial results to the practical bee-keeper.

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AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

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The East Indian Bees.

The missionary, Rev. Mr. Stellar, now on a visit here after a residence of fifteen years in the East Indies, has given me an account of the bees found in the Punjab, as well as of the climate and flora of that province, so interesting, that I conceive it should be more generally known.

The province of Punjab is situated between the Indus and its eastern affluents. The northerly portion, extending to the base of the Himalayas, is a hilly country, but the southern section is level. The mountain valleys approaching the icy ridge of the Himalayas, have an alpine climate, with very hot summers, and the lower parts often suffer from excessive heat in that season. In the still existing immense forests, various kinds of valuable timber; and among the flowering plants and shrubs are the rhododendrums, &c. Palm trees are found growing almost everywhere, where the soil is sufficiently moist. In the more hilly section and the neighborhood of villages, buckwheat is extensively cultivated, while on the plains, mustard and other oleaginous plants constitute the principal crops. The rainy season extends from the end of June to the end of September.

In such circumstances, we may readily suppose that insects of various kinds greatly abound. Among these there are three varieties of the honey bee, which claim our notice:

1. In the plains we frequently meet with a small wild bee, by the Hindoos called *Tschoti schahad ki Makki* (small honey fly). It is little larger than the common house fly, and darker than the European honey bee. It builds its nest on trees, and occasionally against the walls of buildings; yea, I have even found its brownish combs in the flue of a chimney; and at one time I discovered a nest attached to the window of my dwelling. It is said to have a sting, but seldom uses it, and is on the whole a very harmless creature. Its very small cells never contain much honey; but this may perhaps be accounted for by the fact that in its climate, it is able to gather honey all the year, and finds no occasion for storing any. Its honey is not so transparent as that of the European honey bee, and is thinner or more watery; while its color differs according to season. To appropriate this honey, and especially the highly prized wax, the bees are expelled from their nests by means of smoke.

2. Of great importance for the mountainous district, in which it is almost exclusively found, is the second variety of bee, which we shall now notice, and which the Hindoos call the honey fly (*Schahad ki Makki*). This bee I have occasionally kept myself, for the sake of its fine clear honey. As regards size and color, there is scarcely any difference between it and the European honey bee, nor do I remember to have observed that it has a colored corselet. The inhabitants keep it in box hives, and send the honey and wax far into the interior of the country to market. Regard is had to the prospective cultivation of bees, already when they build their simple cottages, by arranging a portion thereof for the reception of hives, because out-door stands are not safe from attacks of the black bears which abound there, and being fond of honey, destroy the hives in their eagerness to obtain it. The entrance of the hives is usually placed fronting the street, court or garden; and access can always be had to them from the interior of the dwellings. The hives are furnished with cross-sticks inside, to support the combs. As soon as a swarm is hived, the hive is closed, and all joints and crevices are plastered with a mixture of cow-dung and clay. The earliest swarms make their appearance in the beginning of April, and the mother stocks commonly produce several swarms in a season. When the hives are filled, or when honey is needed, a portion of the contents is removed, but usually the harvesting is deferred to the beginning of November. There is usually an abundant product, and to obtain it the bees are driven out with smoke. A sufficient supply to carry the bees through the winter is intended to be left in the hive, unless the owner dooms the entire population to the brimstone pit; but it only too frequently happens that the quantity left is insufficient for their support during the cold season, when they are unable to fly out. It is a wonder, indeed, that with such bad management any colonies survive. When hiving swarms or removing honey, many stings are of course inflicted; and when stung the Hindoos annoint the spot with honey. I resorted to the same remedy myself on one occasion when hiving a swarm, and the whole clus-

Entered according to Act of Congress, in the year 1870, by Samuel Wagner, in the office of the Librarian of Congress, at Washington.

ter dropping on my head, I was grievously stung.

Though this bee is found in every village, and the honey product, as has already been stated, is quite large, we seldom find more than eight or ten colonies in an apiary. Ants, which might prove very injurious to the colonies, as in other southern districts, do not occur here.

In November and December dealers arrive from the distant interior, and purchase the honey and wax. The price obtained is usually 20 Sgr per Ter of 10 lbs. [equal to nine cents per pound.] I never could perceive any difference in the taste of this and the honey produced in Germany.

This industrious bee is nowhere found in a wild state, though it often happens that swarms make their escape to the forests. It must therefore be regarded as decidedly a domestic bee. Though these bees can fly out nearly the whole year, days sometimes occur in Kotegush, a village nearly Simla, in the hilly district, when the thermometer shows 32° F., and the mountains are covered with snow. Bees are then constrained to keep within their hives for several days in succession.

3. I now proceed to notice the third kind or variety of bee, called by the Hindoos "*Bar*"—a term not easily translatable. This bee is somewhat longer and thicker than a queen wasp, and darker than the domestic bee just mentioned. The sound produced by its wings when flying is loud and distinct, in proportion to the size of the insect, though not so loud as that of a hornet. This bee occurs only in a wild state in the forests and mountains, where their two feet long reddish combs may frequently be seen suspended from the limbs of trees, at a height of ten or twelve feet from the ground, and are commonly about eighteen inches in circumference. Yet I have sometimes seen them build against the gables of cottages in the villages. Their sting is very painful, as I have experienced on my own person when passing unawares beneath a tree containing one of their nests. The Hindoos assured me that this bee stores a large quantity of honey, which is probable from the fact that it is frequently found in localities where snow falls in the winter months, and as the occasional demolition of nests built against cottage walls has shown. Still it is nowhere cultivated, either for honey or wax. Their ill temper, however, cannot be the sole reason for this exemption, since they may readily be subdued by smoke and driven from their combs. Yet the inhabitants dread them much, and do not venture to approach their nests—a timorousness which must perhaps be regarded as the result of some ancient superstition.

Whether this bee could be domesticated like the one previously described, I am unable to say, but an effort to bring it under subjection might prove interesting and be worth making. Railroads now pass near the places where it is found, and could furnish the means of transporting hived colonies to Bombay, whence they could easily be shipped to some European port. I have no doubt that the missionary Rebsch, at Kotegush, near Simla, would obligingly aid in accomplishing the object.

This is the substance of the Rev. Mr. Stellar's communication.

H. Bornitz.

[From the Western Rural.]

Michigan Bee-keepers' Convention.

Mr. Rood thought that the question of the good or evil of upward ventilation cannot be decided by the experience of one or two swarms put into hives of a certain construction. We cannot reason from analogy in all cases. We must try experiments, and learn from experience. He had tried double hives, constructed with boards three inches thick, lined with chaff. He had no doubt but a hive could be constructed which would do away with the necessity of upward ventilation.

Mr. Putnam thought that upward ventilation was very necessary until bees stop breeding and perspiring. Up to that time he thought it could not be dispensed with. The question is, how is it to be applied? There is a practice among bee-keepers of giving ventilation in another way. It consists in raising the hive on blocks over the bottom board. He found bees in hives raised in this way were healthy, and there were few to be seen on the outside of the hive. He thought that the reason why bees cluster on the outside of a hive, is that they have instinct to know that their presence inside would be injurious; in fact, that the hive would be so hot that the combs would melt.

Mr. Rood said that when he sees bees drumming for the purpose of creating a current of air, he contrives to help them by opening the ventilator, and allowing the heated air to escape.

Mr. Putnam said that in the natural state of bees in the forest, the honey is always stored above the entrance, in an air-tight apartment. A question of importance relating to ventilation is, does the foul air escape at the top or at the bottom of the hive? He thinks it falls and escapes at the bottom.

Mr. Moon thought it was just as necessary to have upward ventilation in a hive as in a room. He had bees at one time in common hives, and in winter, kept the hives in a room in a reversed position. He found that all vapor escaped from the hives, and during frost condensed on the windows, and the glass appeared to be a solid mass of ice. Bees are naturally hot, and unless there is upward ventilation, the vapor arising from them will condense, so that during frost they will be encased in a solid mass of ice.

Mr. Portman said that he frequently, in the forest, found swarms, in trees, with three or four entrances to their natural hive; and in every place where the combs were high above the entrance, they were as dry and perfect as possible; but in every place where they were on a level with or below the entrances, they were more or less damaged.

The next question taken up for discussion, was, "*What is the best method of guarding against the moth?*"

Mr. Rood would give his opinion in a few words—keep the swarms as strong as possible.

Mr. Portman thought that few bee-keepers know how to keep swarms strong, yet the method was as simple as possible; take the queen from the swarm, and put the bees back into the hive. All injurious insects are more or less troubled with parasites. In examining one of his hives he found that it was infested by moths, and that the moths were literally covered with small worms which seemed to feed on them.

Mr. Rood said there were several ways of keeping swarms strong. For his part he thought that the moth was really an advantage. Suppose there are two weak swarms, not sufficiently strong to stand the winter; now that is the very condition which is favorable to the moth. It is searching for a hive in which the bees are not numerous enough to cover the combs. Now if we put the two swarms together, we defeat the moth, and at the same time make the swarm so strong that it will keep warm and healthy during the winter.

Mr. Portman thought that hives in which there are large quantities of drone-comb are more liable to the attacks of the moth, than those which contain much worker-comb. He experienced this frequently. When he finds drone-comb much affected by the moth, he cuts it out and throws it away.

Mr. Biel said that if the entrance to a hive is so regulated that the bees can guard it, the moth will be kept out. A queen left one of his hives in the swarming season, with about forty bees, and, for the sake of experiment, he put the little swarm into a hive and closed the entrance in such a manner that the bees could protect it from the moth. The bees worked well, and made honey enough to support themselves during the winter.

ARTIFICIAL SWARMING.

Mr. Portman thought that an experienced bee-keeper may succeed in increasing his bees by artificial swarming even in as unfavorable a season as last year was. This year the dividing of stocks might be safely carried on even up to the 1st of August. The season was a very favorable one. He intends to experiment extensively in artificial swarming next year; in fact, he will venture to sacrifice seven or eight colonies in investigating and studying out that question. A bee-keeper will find something new to learn every year.

Mr. Rood said that it takes some little time to learn all the facts about bees. There are facts that cannot be communicated, cannot be explained in books, and must be learned by experience. A man has to be in the apiary, and watch the bees, in order to gain a thorough knowledge of their habits.

Mr. Moon said that, as a general thing, where there is a scarcity of honey he would allow the bees to swarm. He found that when honey is scarce, bees seldom swarm. He had as many as thirty swarms this year, and has not lost one. All settled in places where they could be hived.

Mr. Portman said that sometimes people look out in the fields and see an immense quantity of white clover, and infer from this that the season will be a first-class one for honey. Now this is not always the case. Sometimes bees do not work in white clover, because there is no honey in it. There are seasons when there is no honey at all in white clover.

Mr. Rood said that bees seldom gather honey from white clover after the 15th and 20th of July. After that date, although there may be plenty of white clover, there is no honey in it.

* * *

[From the Prairie Farmer.]

North-Western Bee-Keepers' Association.

OFFICIAL REPORT.

The fourth annual meeting of this Association was held on Wednesday evening, Sept. 28, at the Courthouse at Decatur, Illinois. The attendance, considering the state of the weather and other local causes, was very good. It was arranged to have only one session this year; but this, as events proved, was an oversight, for a series of meetings might have been held with profit. Hereafter matters will be so arranged, we trust, that several meetings may be held, and that a greater number of topics may be brought before the society for discussion. When there is but one session, and that a brief one, the time is mainly taken up by reading the minutes of the previous meeting, recording the names and address of new members, electing officers, appointing committees, and transacting other legitimate business.

REMARKS BY THE PRESIDENT.

The President, M. L. Dunlap, called the meeting to order at 7 o'clock, and briefly reviewed the bee interests of the past season. In some repects he regarded the season as a peculiar one. In some sections of our country there has been a remarkable yield of surplus honey secured, while in other sections bees have barely stored enough for their winter use. His own locality has been visited by a severe drouth, on which account his honey crop has been nearly destroyed. More attention should be given to the cultivation of honey-producing plants, and especially those that can be relied upon in seasons of drought. Before we adjourned he hoped the subject of bee pasturage would be taken up and discussed.

From what I see, hear, and read, it is evident that we are making rapid strides in this branch of rural economy. Men of intelligence and moral worth are at the helm. Quacks and charlatans, with long-toed boots and clownish attire, with mouth and hair full of bees, and vending that miserable stuff called "bee charm," no longer disgrace themselves and our fairs, and misrepresent our calling. On the contrary the apicultural exhibitions at our fairs are now conducted by intelligent practical bee-keepers, and in a quiet and orderly manner. This certainly denotes progress and will command respect.

READING THE MINUTES.

The Secretary, Mr. Baldridge, read a synopsis of the last meeting's proceedings. The Treasurer's report was also read, in which it was shown that the society was out of debt, with a small balance in the treasury. The reports being accepted, eleven new members joined the society. There are now fifty-seven members belonging to the association, who have paid their fee of admission. The report of the Secretary shows that there were twenty members at the annual meeting in 1869, who represented 1,001 hives of bees, and 24,709 lbs. of surplus honey.

ELECTION OF OFFICERS.

The following officers were chosen for the ensuing year :

President, L. C. Francis, Springfield, Illinois.

Vice-President for Illinois, J. B. R. Sherrick, Decatur.

Vice-President for Wisconsin, R. C. Otis, Kenosha.

Vice-President for Iowa, W. T. Kirk, Muscatine.

Vice-President for Missouri, L. C. Waite, St. Louis.

Secretary, M. M. Baldridge, St. Charles, Ills.

Treasurer, James M. Marvin, St. Charles, Ills.

FIFTH ANNUAL MEETING.

Vice-President Sherrick made a motion that the next annual meeting be held in Wisconsin, which was sustained. The Secretary therefore gives notice that this meeting will be held, as fixed by the constitution, on or near the fair grounds at the time of the State Fair, and that every member of the Wisconsin Bee-keepers' Society is particularly requested to be present.

COMMITTEES.

J. L. Peabody, G. Ayres, and J. B. R. Sherrick were made a committee to examine the bee hives on exhibition at the fair grounds, and to report on their respective merits.

A committee was also appointed not only to *examine*, but to *test*, the merits of the honey machines on exhibition, and to report upon the same. This committee was composed of President Francis, Miles H. Wilmot, and William G. Reynolds.

It was made a condition that these examinations and reports should simply be an expression of the committees, and *not of the Convention*, and that the reports should be written out and placed in charge of the Secretary before the close of the fair, so as to be published with the proceedings of the Society.

And right here the Secretary desires to say, this being as good a place as any to dispose of this matter, that the report on hives was not received during the fair, nor has it been since ; and that the publication of the proceedings has been somewhat delayed in hopes of receiving the same by mail, so that there could be no just cause for complaint. The report on the machines was promptly attended to, and reads as follows :

We find two machines on exhibition, one by Wm. G. King, and another by J. L. Peabody. After testing the machines with the best facilities in our possession, we find them both to be good extractors : but for simplicity of construction, convenience of operating, compactness and durability, we should give the Peabody machine the preference.

L. C. Francis,
Miles H. Wilmot,
William G. Reynolds,
Committee.

We will now return to the proceedings of the Society.

NATIONAL BEE-KEEPERS' CONVENTION.

The subject of holding a National Convention came up for consideration, and a vote taken upon it, which resulted unanimously in favor of a two days' meeting at Indianapolis, on the 21st and 22d of December next. The society expressed regret that any unkind feelings should exist on this subject between the Michigan and North-eastern Associations. As the Michigan Society has issued the call, and as the time and place has been extensively advertised, it does seem that it would be best to meet at Indianapolis this year, and then the Convention may decide by ballot on the time and place for holding the next annual meeting.

Evidently it was the design that the following telegram should reach the officers of Northwestern Society before the hour of the annual meeting. Such, however, was not the case. By the inexcusable negligence of the telegraph agent at Decatur, it was not received by the Society till Friday, Sept. 30th, which was too late to take any other action upon it further than to reply.

Attica, N. Y., Sept. 28, 1870.

To the North-wes'ern Bee-keepers' Association.—The North-eastern Bee-keepers' Association held a meeting to-day. On motion of R. Bickford, seconded by I. Root, it was voted that this Society desires the National Convention to be held at Cincinnati. This point is centrally located, is free from local influences, and is near the home of Rev. Mr. Langstroth, whom we want present. Please telegraph the desire of your convention.

M. Quinby, *President.*

The following reply was sent by telegraph, as soon as the above was received, but to St. Johnsville, N. Y., that being the home of President Quinby :

Illinois State Fair Grounds, *Sept.* 30, 1870.

Your telegram was not received till to-day. The North-western Association has decided to recognize the call by the Michigan Society for a National Convention at Indianapolis.

L. C. Francis, *President.*
M. M. Baldridge, *Secretary.*

DISCUSSION ON BEE PASTURAGE.

Miles H. Wilmot, Illiopolis.—The best tree for honey purposes, in my section, is the basswood. This tree is in bloom about two weeks, and yields honey at a time when other blossoms are gone. More attention should be given to this tree for shade and ornamental purposes. It is a hardy, rapid grower, and can be made profitable as a honey tree.

Borage has been highly recommended as a honey plant; but it is a question whether it will pay to raise a crop especially for bees. One of my neighbors has an acre of this plant; the bees work on it from morning till night; it remains in bloom a long time; and bees seem to secure considerable honey. But an acre of any plant is of little value when within the range of the flight of several large apiaries. That is to say, the increase of honey distributed among so many colonies, would scarcely be noticed.

Heartsease gave me considerable honey last year, but not so much this year. In general it is one of my best plants for honey.

M. L. Dunlap, Champaign.—Until this year, I supposed we could supply our bees with abundant pasturage. There are several desirable honey plants, but we need pasturage that is of value for other than honey purposes. No matter what the season may be, it will pay to raise crops for *soiling*. For this purpose fall rye is excellent, and can be cut early in the spring. The land can then be plowed and sowed to buckwheat. In most of seasons this crop of buckwheat will produce considerable honey. When the plant is in full bloom, it may be plowed under as a fertilizer, and the land resowed for a grain crop. There is always a good demand for buckwheat flour, and the crop is generally a paying one for grain purposes alone. This year I sowed three acres to buckwheat as just stated. My apiary of seventy-five colonies have gathered enough honey from this plant to winter them.

This year my bees have worked considerably on apple juice. I have never known them to do so before, and therefore attribute this innovation to the scarcity of honey. As soon as my second crop of buckwheat came into bloom, my bees quit cider-making. I have been asked the question whether bees stored cider or honey from the apple juice. This question I will answer by saying that I do not believe the honey bee is at present sufficiently skilled in chemistry to change apple juice, or molasses even, into honey.

Last spring I sowed seven acres to Alsike clover. The ground was nicely prepared, but the extreme drought and the lateness of the season, destroyed it. I think this clover should be sowed alone, and as early in the spring as possible.

A Stranger.—My experience with buckwheat is not a favorable one. A year ago I sowed a few acres to this crop, but I was unable to find my bees at work upon it. Has any one else a similar experience?

Secretary.—In the vicinity of St. Charles, buckwheat seldom yields much honey. There are in the village about 250 hives of bees. They do not average, one year with another, more than three to five pounds of honey from the buckwheat. The land is quite high and rolling. Twelve miles west of the village, the Messrs. Marvin have an apiary of fifty colonies. In this location we have never known the buckwheat to fail in the secretion of honey. From forty to fifty pounds of buckwheat honey is the yearly average for each colony in this apiary. The land is level and quite low.

On some soils white clover secretes but little honey, and the same may be true in regard to buckwheat. Careful observations in different parts of the country may soon settle this point.

John Husted, Beardstown.—Buckwheat is a good honey plant with me. This season I have taken from two hives 128 lbs. of buckwheat honey, as surplus.

A. T. Bishop, Leroy.—Up to the 5th of September my bees did not gather much buckwheat honey. But at that date the blossoms began to secrete honey, and since then they have done well. This indicates that the secretion of honey in buckwheat, as well as in other blossoms, is more or less subject to atmospheric influence.

A. Stranger.—One acre of Spanish needles* will give more honey than five of buckwheat. The honey has a finer flavor and a rich color, and commands a good price in the market. Not so with buckwheat; the honey is too dark, and the flavor is not generally well liked.

Mr. Wilmot.—I have noticed that bees do not work much on buckwheat sowed in the early part of the season.

President Francis.—As a honey plant there are two objections to buckwheat. 1st. It is unreliable—hot weather and early frosts ruin it completely. 2d. It depreciates the value of white clover honey when mixed with it. Every year I have more or less boxes of white clover honey nearly full, finished up with buckwheat. The appearance of the white clover honey is spoiled, so much so that it sells for no more than buckwheat honey. Dark honey will not sell in market within 5 or 10 cents per pound as much as light-colored honey. Instead of raising buckwheat for honey, it is the better way to keep none but Italian bees. These bees will gather honey from plants not visited by the common variety, and will work with greater industry. For these reasons they will gather more honey without than the natives will with buckwheat.

Alsike clover is an excellent honey plant, but it yields honey only when we have plenty of white clover and other blossoms. On this account it is not so valuable as it would be if it bloomed later in the season. Perhaps feeding it awhile in the spring would delay its blossoming, and obviate this objection.

Secretary.—Our main dependence for honey, last year, was the Alsike. This year the drought has been so severe that it made but a small growth, and consequently yielded but little honey. The prospect however is good for a crop of Alsike next year. It seems to stand the drouth well, notwithstanding the growth is small. Comparatively it has suffered but little more from the drouth than timothy, which with us, this year, is not more than one-fourth of an average crop. All of my Alsike was sowed with winter and spring grains. It does well when put in with barley just before the last harrowing. Sometimes this clover will grow to the height of 15 to

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* Spanish needles grow abundantly here (in Washington) on waste places and roadsides; but we never saw a bee on the blossom, though, we examined them frequently, year after year, when in bloom.—Ed. Am. Bee Journal.

20 inches the first season and can be cut for a hay or seed crop. Such was the case last year, in some parts of Michigan. It is now no longer a question with those who have fairly tried the Alsike that it is a valuable plant for honey, in seasons and on soils suited to its growth.

A Stranger.—Would it not be well to plant groves of the locust, for honey? This tree blossoms very full, and yields a large amount of most excellent honey. It is also valuable, when large enough for posts and ties, and seems at present to be free from the attacks of the borer.

Mr. Wilmot.—I have observed bees working considerable on the male plant of the hemp, and have thought that it might be a profitable crop to raise for honey and other purposes. Has any one any experience with this plant?

Wm. G. King, Champaign.—My former home was Kentucky. Large fields of hemp were grown in my neighborhood. My observation is that bees do not gather honey from this plant, but pollen only. This being the case it will not pay to raise this crop for the use of the bees, as they can always get as much pollen as they need.

Mr. Dunlap.—It is well known to botanists that staminate plants do not yield honey.

FERTILE WORKERS.

Mr. King.—As fertile workers are a source of much trouble to bee-keepers, I wish to say a few words in regard to them before we adjourn. These may be found and destroyed very readily by making several temporary divisions of the colony. By watching these divisions closely for a short time, those having no fertile worker will show it *by their actions*, the same as though made queenless. The division that remains quiet should now be examined, and, as it contains a mere handful of bees, you will soon find the mischief maker. When destroyed unite the bees and give them a fertile queen, and she will be kindly treated. If any one has a better way of disposing of these would-be queens, I should like to know what it is.

Secretary.—There are two objections to the plan given by Mr. King. One is, the waste of unnecessary time in making the divisions and searching for the fertile worker. The other is the liability of still leaving one or more fertile workers among the bees! In practice we find it much the better way to let the bees themselves destroy the fertile workers, which they will do as soon as they have a supply of *young bees*. To supply these, simply take one or more combs of larvæ and maturing worker brood from other colonies in the apiary and insert them. By this means the queenless colony is kept in full strength, and the young bees will not only destroy all the fertile workers, but now proceed to raise a queen from the proper material, or accept of an offered queen or a queen cell.

Prevention, however, is much better than a cure. Do not allow any colony to remain queenless so long that they are compelled to resort to such abnormal measures for their preservation and perpetuation.

The objects for which the society met having now been accomplished, a motion to adjourn was in order.

M. M. Baldridge, *Sec. T.*

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* This method of subdivision may be advantageously resorted to when it becomes necessary to search for the queen of a very populous colony of black bees. It is then a less troublesome and far more agreeable means of finding her majesty than overhauling a series of combs crowded with ill tempered and irritated bees, while an eager horde of robbers is on the wing, ready for a general raid on the hive and its contents.—Ed. A. B. J.

Report of the Semi-annual Meeting of the North-Eastern Bee-Keepers' Association.

Held During the N. Y. State Fair at Utica, Sept. 27 and 28, 1870.

M. Quinby, (presiding) called the meeting to order. Minutes of the last meeting read and approved. After distributing papers containing the Constitution and By-Laws, an opportunity was offered to bee-keepers present to join the association, and a goodly number enrolled their names.

Mr. Robert Bickford, of Seneca Falls, being present, was invited to address the meeting, as he was familar with the history of similar associations in Germany.

He said he stopped off not to attend the fair, but to be present at the semi-annual meeting of this association; was pleased to see the interest manifested, but we were far behind the German associations; at one of their late meetings three hundred and ninety bee-keepers were present, including eighteen or twenty ladies, and the citizens took a deep interest in the cause, providing for members at their own homes. They do not make a side show of their meetings by holding them in connection with fairs, but have a grand rally that stirs the whole community like some of our great political meetings, and they have a grand display of fireworks in the evening. With the name and address of each member is recorded the number of stock of bees he keeps; the number in movable-comb and box hives; the number of pounds of honey secured and the price obtained in the market.

Mr. Bickford suggested that we make a similar record and publish the same in the papers with the report of the Convention.

Mr. King moved that we adopt Mr. Bickford's suggestion. Mr. Quinby suggested that the phrase movable-comb hives would be sufficient without mentioning the name of the hive inventor or patentee, and the motion thus amended passed unanimously.

The following questions for discussion were read:

1st. Is it profitable to prevent natural swarms in all cases?

2d. To what extent is artificial swarming profitable?

3d. At what time of the season is it best to make artificial swarms?

4th. Will it prove an advantage, all things considered, to use the honey emptying machine extensively?

5th. What would be the advantage of artificial combs of material indestructible by worms?

By request of Mr. Bickford—who expected to be present but one day—the last question was taken up first, and Mr. Quinby called upon to introduce the subject. He exhibited a frame of artificial comb of his own invention, made of tin and sheet iron. It was coated with wax and filled with honey by the bees, some of the cells were sealed over. The queen would deposit eggs in the cells, and in one piece as many as four litters of brood had been hatched, but the queen preferred the tin.

Mr. Bickford asked Mr. Quinby the following questions:

1st. Had he used that kind of comb in a hive exclusively?

2d. What will it cost per hive?

3d. Had he made whole frames of sheet iron alone?

4th. Are you willing to use it in your own apiary?

5th. What will be the effect of metallic combs upon the bees in winter?

6th. Can you test it the following winter?

7th. How do you propose to supply bee-keepers, with machines or combs?

8th. Would it pay to sell combs?

Mr. Quinby replied to the questions as follows: 1st. He had not. 2d. About $2 per hive. 3d. Had not. 4th. Was testing it. 5th. Could not tell, as he had tried it only this season. 6th. Had only four sheets of this comb filled with honey, but Mr. Von Douzen has six sheets. 7th. Have not determined what to do; had applied for a patent which had been rejected on account of Mr. Wagner's patent on the base of cells. 8th. Did not know, but thought they would sell, as they would be a great advantage with the honey extractor, and metallic combs could not be destroyed by the moth and we would not be troubled with drone comb.

Mr. Bickford said that he had a plan for a machine to make comb out of wax or other substance, had made some comb, but a machine would cost about $200, and he did not think enough would be sold to pay for the investment. He had all the bees he could attend to, and they were supplied with tolerably straight combs. A few years ago he would have taken more interest in the artificial combs than he now does.

Mr. King said that he was willing to invest $200 to make a machine to furnish artificial comb for sale, but agreed with Mr. Bickford that it would not be remunerative. Mr. Bickford had kindly explained his invention and offered it without price for the good of the cause, but he is in communication with other parties who, he thinks, will soon produce artificial comb of a substance having none of the objections of metallic combs, and yet indestructible by the moth, but considered the latter of less importance, as strong stocks of Italians are in no danger of injury by the moth, and practical, enterprising bee-keepers should keep no other. Experimenting is very expensive, and he would prefer to have some one else furnish machines and make artificial combs, but he could sell a large amount.

Mr. Allen, Mr. Hetherington and others spoke on the subject, when Mr. Root called the association to order; said we were violating our rules by exhibiting inventions. Mr. King said Mr. Quinby was excusable on account of his age. Mr. Hetherington asked Mr. Bickford if he had actually made a piece of perfect comb out of wax. Mr. Bickford replied that he had on a small scale, but calculated the machine would make a square foot per minute, and he could prove that a frame of comb was worth $1.50 to beginners.

Mr. Quinby said he had heard of some instances where swarms without combs gathered more honey than those supplied with empty combs.

Mr. Baldwin, Sen., said last spring they had plenty of empty combs, and hived a large number of swarms in hives with combs and about an equal number in hives without combs. The swarms put in hives without combs, have stored nearly, double the amount of box honey stored by those supplied with empty combs and are much stronger, though there is not as much honey in the body of the hive. He thinks the unusually abundant yield of honey enabled the bees to fill the empty combs before the queen could occupy the proper space with brood to keep the stock strong in number.

Mr. Adset said he had some experience in putting swarms into hives filled with empty combs, and obtained six to eight, and even ten boxes of surplus honey from such stocks, but he had never obtained more than four boxes from swarms put into empty boxes.

Mr. W. A. House thought the colonies had been too much confined. If there had been more boxes the bees would have filled them and allowed more room for the queen to rear brood. Mr. Haskins thought that empty boxes would obviate the difficulty.

AFTERNOON SESSION.

By motion of Mr. Root the other questions were considered together, as each one depended on the others. He favored non-swarming and the use of the honey extractor. Said they had a great many empty combs last spring, and used large hives. In one week's time they took eighty-three pounds of honey with the extractor from one hive, and did nothing to stimulate breeding except the exchange of empty combs for full ones removed. From one hive they took 371 pounds, the stock now has 75 pounds and has made no attempt to swarm. From another hive with boxes they obtained 155 pounds of box honey under similar circumstances.

Mr. Allen had sold drained honey for a higher price than he could get for box honey. Mr. Bickford had sold 350 pounds of box honey for 50 cts. a pound in New York, and thought extracted honey worth 50 cents a pound, and we can get it if we only ask it. If you ask less than for box honey, purchasers will think it is worth less.

Mr. Hetherington said that while in New York, lately, he heard it said that a better price could be obtained for honey if only two or three dealers sold it, for when it goes into the hands of commission merchants who make butter, eggs, &c, a specialty, they will sell honey at a low price at wholesale to get it off their hands and get their five per cent., as they do not receive enough honey to pay them for spending time to get the highest price.

Mr. Bickford said honey gathered early was not of so fine a flavor. Honey from dandelion mixed with white clover honey injures its sale, and ugly worms have disgusted him with box honey.

Mr. King said that a part of the poorly flavored honey gathered early would remain in the combs, and when emptied by the extractor with white clover honey would injure its flavor, but the difficulty can be remedied by inserting empty combs or putting on boxes after the white clover honey harvest has commenced. He believed extracted honey would never command the highest price in the city markets. In setting a table, health reformers have three rules. 1st. The food must be healthful. 2d. Palatable, and 3d. It should, when on the table, present a pleasing appearance. But the class of city people who purchase most of the honey, have these rules reversed; and what looks more pleasing to the eye and sweeter to the taste than "honey in the honey comb." He proposes to get up beautiful labels with blank for the bee-keepers' address, and keep them for sale; some guarantee of purity is important, as extracted honey is destined to soon have a large sale, by the barrel as well as in jars, for other purposes than the table.

Mr. Bickford said honey in glass jars looks more beautiful than honey in the comb with the cells half filled, and the higher the price the better it sells.

Mr. Jones.—Will it keep as well as box honey? Some object to it, stating that it soon candies, looks like lard and will not sell. Mr. Bickford.—It keeps better than box honey, and the objection of looking like lard vanishes when the purchasers are informed that by setting it in water and heating it gently it again takes the liquid form and is as clear and fresh as ever.

Mr. King said the committee appointed to correspond with the presidents and secretaries of sister associations and leading bee-keepers throughout the land, in reference to holding an American Bee-Keepers' Convention, had discharged the duty, and he gave the history of the correspondence at length, which has since been published in the Bee-Keepers' Journal. Messrs. Bickford, Hetherington, Root, and others, spoke, approving the course the secretary had taken.

Mr. King said the North-Western Bee-Keepers' Association was in session at Decatur, Ill., and that he feared they would unconsciously be led astray by Mr. Wagner's statement, as Mr. Wagner had been by the partial quotation of the resolution of this convention, made by Messrs. Moon and Mitchell.

Mr. Bickford said if he represented any one at this association, he was here as a friend of Mr. Wagner and Mr. Langstroth.

On motion of Mr. Bickford the following was sent by telegraph:

Utica, N. Y., Sept. 28, 1870.

To the North Western Decatur, Ill., Bee-Keepers' Association:

The North-Eastern Bee-Keepers' Association desires National Convention held at Cincinnati, Ohio, because generally located, free from local influences, and near the home of Mr. Langstroth, whom we want present. Telegraph desire of your convention.

Signed, M. Quinby, *President.*

(The dispatch was sent the 28th. Some days after Mr. Quinby received dispatch that our telegram was received too late; they had recognized the call of the Michigan Association and adjourned.)

SECOND DAY—THIRD SESSION.

Mr. King said the clause in our constitution requiring the payment of one dollar annually, was a great hindrance to the prosperity of the association. Many bee-keepers present had not joined.

Mr. Hetherington said we contemplated offering premiums on honey, and we should need money. Liberal premiums should be offered, as it costs considerable to exhibit honey.

Mr. Bickford said that he hoped we would rescind the whole clause and have no initiation fee. In the great gatherings in Germany, membership was free. If money was needed, members would put their hands in their pockets and give liberally.

Mr. Quinby said we should have opportunity enough to put our hands in our pockets, even if we let the initiation fee remain as it is.

Mr. King said he could heartily endorse Mr. Bickford's position. Do away with both the annual and initiation fees, and get bee-keepers to attend and join the association, and when they become interested they will give liberally to defray any necessary expenses. Let us be liberal and have a large gathering and an interesting and profitable meeting.

Messrs. Van Douzen and Hetherington spoke against any change, when Mr. Root said a clause in the constitution provided for amendments only at the annual meeting, hence the discussion was useless and out of order.

On the question of swarming, Mr. Quinby said if we could prevent the issue of swarms until after we had secured the surplus honey with the extractor, (or if in boxes they would be filled more rapidly, and the honey would be whiter,) then make new colonies just in time to secure winter stores, we would obtain more honey, and the stocks would be more valuable in the spring. Late swarms work and breed late, hence the bees are young and the colonies more valuable the next spring. He had got his box honey before swarming, and bees will finish boxes after swarming if partly filled before.

Mr. Allen thought honey ought to remain in the combs some time, before emptying it with the extractor, to acquire a good flavor. The honey is condensed by evaporation while in the hive, but honey emptied with the extractor while thin is liable to sour.

Mr. Root said artificial swarms should be made when there are enough bees for two good swarms, and not before.

AFTERNOON SESSION.

Mr. Bickford said it was well known that foul brood had been detrimental to bee-keeping, but a simple remedy had lately been discovered. and would soon be published. The ingredients can be purchased for a few cents at any drug store.

Mr. Quinby said foul brood was not one hundredth part as bad now as it was ten years ago.

Mr. Bickford desired to speak in favor of the publications devoted to bee-culture, but specially in favor of the *American Bee Journal*. No one can do much alone without the aid of papers and books.

Mr. Quinby said a single article in the paper would often contain just what a beginner wanted to know and worth many times the price of the paper.

Mr. King said we had been greatly disturbed by the crowd during the sessions of this convention, which, with the irregularity of the attendance of members had prevented him from securing a list of all the names of bee-keepers present, with the number of stocks each kept, amount of honey obtained, and number of movable-comb hives. If elected secretary again at our next annual meeting, he will provide an assistant secretary and make a more creditable report. He believed it was well to hold semi-annual meetings of bee-keepers' associations at State fairs, but when held during the day on the grounds, a secure retreat should be obtained, and only short, lively sessions held. He promised to provide before next fall, large cards with the following, printed in large, bold type :

BEE-KEEPERS ASSOCIATION.

Will meet at......................at................o'clock.

suitable for any association in any State, and furnish them free, to be tacked up in different places on the fair ground.

Mr. Bickford moved that the report of this convention be forwarded for publication to the various bee journals and agricultural papers, which passed, and the association adjourned to the next annual meeting.

H. A. KING, *Secretary.*

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The name *Bee*, as shown by its derivative meaning, was originally imposed with direct reference to the insect's constructive habits, as was the case with the names given to it in the more primitive languages, and which is also the origin of its Teutonic and Scandinavian appellations—*Biene*, *Bie*, *Bi*, whence our own common name for it is obtained through the Saxon *Beo ;* and we have besides Bye or bee, signifying *a dwelling*. From this circumstance it would seem that a very early and universal discernment existed of its ingenuity and skill, its significant name being everywhere analogous.—*Schuckard.*

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Natural laws are the rigid expression of dominating necessity.

[From the Official Report, in the Advertiser and Union.]

Cautauque County, N. Y., Bee-Keepers' Convention

The first annual meeting of the "Chautauque County Bee-keepers' Association" was held at the Court House in Mayville, Wednesday, Sept. 27, 1870.

In the absence of the president, vice president J. C. Cranston was called to the chair. The following officers were elected for the ensuing year :

President, J. C. Cranston ; Executive Committee, Ira Porter, J. G. Harris, J. M. Beebe, L. R. Whitford and H. A. Pratt ; Secretary, C. E. Benton : Vice-Presidents, M. H. Town, of Arkwright, E. H. Jenner, of Busti, O. E. Thayer, of Carroll, Welcome Carpenter, of Cherry Creek, J. O. Wood, of Chautauque, B. Pettit, of Clymer, Z. Hunn, of Dunkirk, L. Weeks, of Ellery, Mr. Carpenter, of Ellington, L. L. Darby, of Ellicott, Addison Beebe, of French Creek, B. L. Harrison, of Gerry, W. H. Cook, of Harmony, C. E. Randall, of Hanover, J. Scudder, of Kiantone, H. Q. Ames, of Mina, Livanus Ellis, of Pomfret, Maxam Sweet, of Poland, Delos Hall, of Portland, David Shaver, of Ripley, H. B. Woodcock, of Stockton, Joseph Shinner, of Sherman, P. Miller, of Sheridan, T. Searl, of Villenova, E. C. Bliss, of Westfield—

The following reports were submitted by members :

They set forth the advantages of bee-keeping in a manner at once telling and practical, and are well worth reading. The reports are brief—facts and figures—merely showing what has been done, and therefore what can be effected in Chautauque. As Mr. Hubbard said there is probably no farm-stock more remunerative for the same amount of capital expended than bee-culture. Care is of course necessary, as with everything else that is solid or substantial.

J. M. Beebe, of Casadaga, commenced the season with fifteen colonies of bees, one of which was queenless, and one had a drone laying queen, leaving him but thirteen swarms of value. Three of these he used for making nucleus swarms for raising Italian queens, thus leaving but ten from which to receive surplus honey. These ten produced 12 young swarms and 655 lbs. of surplus honey. One Italian colony produced one young swarm and 96 lbs. of box honey, and the young swarm 120 lbs., making from one swarm 216 lbs. of box honey and a good young swarm worth $10—a profit of $74.80—the largest profit he had ever received from one swarm of bees. He has now 25 colonies of Italian bees all in good condition for wintering.

Wm. Cipperly, of Sinclearville, commenced the season with two colonies—one in the Beebe hive and one in the box hive. The one in the Beebe hive gave him five young swarms and 60 lbs. box honey. The one in the box hive gave him three young hives and no box honey. The whole amount of surplus honey is 200 lbs. ; it would have been more, but he preferred the increase of swarms.

Franklin Ellis, of Casadaga, commenced in the spring with 11 swarms—some in the Langstroth and others in the box hive—and realized 15 young swarms and about 400 lbs. of honey.

Mr. Waterman, of South Stockton, commenced with six swarms; realized 10 young swarms and about 200 lbs. honey. He used the old fashioned box hive, but intends using the improved hive next season.

Nester Lambling, of Charlotte, commenced with six swarms, mostly in the Beebe hive, and has six young swarms and 400 lbs. box honey.

Lewis Simmonds, of Charlotte, commenced with six colonies, and has eleven young swarms and 200 lbs. honey; he uses the Langstroth hive.

John Guest, of Pomfret, commenced with two swarms; got two young swarms and 75 lbs. honey; uses the box hive.

Mortimer Ely, of Stockton, commenced with two swarms from which he has four young swarms and 40 lbs. honey; he used the Kidder hive.

P. G. Tambling, of Pomfret, had in the spring three swarms, and received six young swarms and 50 lbs. honey; he used the box hive. One of the hives has been in use twenty years and now has the same combs that were built in it twenty years ago. The bees are strong and healthy. Who can beat this?

Russell Mattoon commenced with one swarm, and has four young swarms and 75 lbs. honey.

Lyvenus Ellis, of Pomfret, commenced with nine swarms, from which he has received nine young swarms and 700 lbs. box honey. One swarm gave him 108 lbs. surplus honey.

[Perhaps the only report ahead of this was the President's, T. S. Moss, who "hived" 10 lbs. of most delicious honey, with *nary a bee.*]

Wm. Smith, of Stockton, commenced with seven swarms, and realized seven young swarms and 300 lbs. box honey. He has taken from one young swarm in the Beebe hive 99 lbs. surplus honey.

Sewell Spaulding, of Villenova, commenced May 17th with one swarm. August 1st he had realized thirteen swarms.

W. S. Grant, of Poland, commenced with seventeen swarms, and has realized five natural and thirteen artificial swarms, and 625 lbs. box honey.

H. B. Rolfe, of Westfield, (a school boy,) commenced one year ago last April with six stocks of M. S. Snow's Italian bees. Last autumn put eleven swarms in cellar, and wintered two outside, but one lost its queen, leaving him but twelve in the spring. He now has forty-one stocks from the original six (besides four which went to the woods,) only ten of which are not hybridized. He has taken off 500 lbs. box honey, which he thinks pretty well considering the number of swarms sent out. He depends entirely upon natural swarming. No surplus honey last year. One swarm of hybrids, sent out four swarms in May. The first issued the 15th which sent out a very large swarm June 25th, filling a Langstroth hive, and going into the boxes, filling one set, and commenced on second set. July 6th another swarm issued from the same hive. Another swarm of hybrids came out and was hived May 31st, and in just twenty-seven days thereafter sent out a large swarm, and at night he took off 33 lbs., 5 oz., of box honey besides; the hive was full. (Beat that if you can?) This swarm also sent out a fair second swarm July 9th. Another swarm of hybrids issuing June 1st also sent out a swarm in twenty-seven days, but had about half filled the boxes when the bees went to the woods, because he did not get home from school in season to hive them.

E. H. Jenner, of Busti, realized 75 lbs. surplus honey from one swarm.

U. S. Ladue, of Brocton, took two young swarms from one swarm, and 50 lbs. of honey from one of the young swarms and the old swarm.

John Furman, of Portland, had five swarms last fall, but only one in the spring, which has produced him two swarms and 25 lbs. honey.

Mr. H. A. Pratt bought four swarms one year ago last spring; raised six young swarms; five came through the winter very feeble; fixed feeding, but did not succeed very well; has received this year twelve new swarms and 30 lbs. box honey.

Mr. L. Weeks commenced keeping bees about twelve years ago; has one swarm in a house which now contains about 400 lbs. honey, but does not think they are as profitable as where kept in hives. Has now seven swarms from three wintered; uses box hives.

H. B. Woodcock, of Stockton, from one swarm has realized two young swarms and 30 to 40 lbs. box honey.

J. G. Harris, of Westfield, commenced three years ago with three stocks in box hives. Has now fifty-four stocks in Langstroth hives. Took off this year over *one-half ton* of box honey in three pound boxes.

L. R. Whitford, from seven swarms in the Beebe hive has 165 lbs. surplus honey; number of young swarms not stated.

Mr. Watkins, from two swarms has five new swarms and 100 lbs. surplus honey.

W. H. Cook, of Harmony, has kept bees since he was eighteen years old. Had twenty-three swarms last spring, eight of them very light. Fed through the winter. Has taken off over 1,100 lbs. box honey, with several hundred pounds still in the hives. Has twenty-four new swarms, ten of which have yielded $100 worth of surplus honey. One swarm has swarmed twice, and from the old swarm and one of the new ones he received 119 lbs. honey.

Mr. E. R. Hubbard, of Water Valley, Erie Co., spoke with great interest to all present. He usually kept from 60 to 75 swarms. He thought $100 invested in bees, and properly cared for, would yield a greater profit than the same amount invested in any other kind of farm stock.

Mr. Richardson had received 123 lbs. surplus honey from one swarm, and 41 from a young swarm.

J. C. Cranston, of Sheridan, spoke at some length in reference to the management of bees, and recommended the use of rum as a wash for the hands and face to prevent being stung, and also referred to his moth trap, offering the use of it to any gentleman present.

J. M. Beebe, of Casadaga, exhibited and explained his patent hive and feeder.

Mr. Hubbard also exhibited and explained his hive and avowed it as his opinion that these two were the best now before the public—an opinion generally concurred in by those present.

On motion it was resolved that the next annual Bee Meeting be held at Mayville—the time to be designated by the Executive Committee. A semi annual meeting will be called in the spring.

IRA PORTER,
Secretary pro tem.

The following reports are additional to those referred to and received since the convention adjourned :

Report of Elliott Bachelor, of Stockton.

I commenced the season of 1870 with three swarms of bees. One in the Langstroth, one in the box, and one in J. M. Beebe's hive. From the three I received twelve young swarms and 120 lbs. box honey, which was taken from the Beebe hive, with the exception of 6 lbs.

Report of Franklin Kelley, of Pomfret.

Commenced the spring of '70 with two stocks of bees—one in the Bingham and one in the Beebe hive. The Bingham hive gave me one young swarm and 48 lbs. of surplus. The Beebe hive gave three young swarms, and the first young swarm swarmed, making four young swarms, and 108 lbs. surplus honey.

Report of Sylvester Munger, of Delanti.

Commenced the season of '70 with five colonies of bees—some in the Langstroth, some in the Beebe, and some in the box hive. I received 300 lbs. of box honey and eleven young swarms. I prefer the Beebe hive to any I ever saw.

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[For the American Bee Journal.]

Novice.

We have been looking over the "*Annals of Bee Culture*," for 1870, and must say we were very much interested and consider the articles generally remarkably well chosen, and well written, with a view of bringing forward prominently the progress made in the year.

Mr. Thomas's article we should have felt inclined to criticise some ; but the editor in his note at the end of the article, has said all that we would say, and perhaps more, although we think bee-keepers of large experience in artificial swarming, will very nearly agree with Mr. Adair.

By the way, Mr. Editor, we *did* think your indulgence rather severely trespassed upon, when the vendor of a patent hive took the columns of the Journal to proclaim boldly his hive the "best in America," without so much as saying "in his opinion," and then to refer your readers *en masse* to the advertising columns. We could not help wondering what a rush there must be (if every one credited the strong assertion) to make an offer. An offer for what? When will the community ever learn that the fact of a patent having been granted on an article, does not necessarily imply that said patent is of any *value?*

What would be thought of a man who should locate himself on the beach of Lake Erie, and proclaim that some barrels of water he had just dipped up "*must be sold,*" and urge the community to make him an offer at some price or other? In case he could persuade people, (and that is what patent right men *do* do as a general thing,) that the water he had just dipped up was superior to that remaining in the lake, he would probably make a sale.

As Mr. Thomas had his "say" several times in the Journal, he certainly cannot complain of what is allowed to be said of him and his hive on pages 103 and 105.

Mr. Kretshmer's article in the "Annals" on in-door *vs.* out-door wintering of bees, we must think a step backward. To settle the matter he says, he concluded to test it himself, and then gives the result as though no one had ever made a similar experiment before, and informs us just why it is. Does Mr. Kretshmer forget that almost all the bees in America *are* wintered on their summer stands ; yet they do not get two swarms and 149 lbs. of honey, each, for all that. Why is it?

From the last few lines of his article we thought we might get his idea, namely, that the *hives commonly used are not suitable*, and now the happy thought struck us, that we would write to Mr. Kretshmer and ask him if he will be kind enough to tell us just what sort of hive he uses. But here again the thought occurred that *he too* may be a patent hive man ; and, oh, lamentable human nature ! the facts they give are much one-sided, and 149 lbs. 8 oz. does look surprisingly like some of Jasper Hazen's experiments to get at FACTS. (We might think of the two swarms that he has besides, and Mr. Hazen don't have ; but we won't until we see if it is really a patent hive.)

We presume Mr. Quinby, Adam Grimm, and hosts of others have tried the same experiments in wintering, for a great number of years, and with hundreds of stocks, and yet we believe they are satisfied that special repositories are a decided advantage. In our locality we think it safe to say, that one-fourth of all the bees raised are lost in wintering out of doors, that would be saved if properly protected, from the frost and sudden changes.

We really doubt if it be possible to winter bees in an apiary of fifty stocks, all strong and well supplied with honey and winter passages, without losing some of them ; and those remaining will, many of them, be so weakened by losing a few more at every sudden change of weather, that they will not compare at all with those wintered in-doors.

In regard to brood, all of our stocks that we opened, (and that was a good many,) had considerable brood in January last winter. As this matter of brood has been often mentioned as an objection, we think perhaps ours may have been stimulated by leaving the door open a few nights, which we mentioned we did on account of being obliged to use saw-dust that was quite damp.

As to feeding rye-meal, &c., in February, this is easily and often done, by removing the stock from the house at that time; but our objection to so doing is, that the result would be *too much brood*, long before it is needed.

Mrs. Tupper some time ago gave the result of her experience, that brood had better not be encouraged too much, before about the first of April, and our experiments corroborate it. It is true, we can stimulate bees to raise brood, so as to have them fill the hive and possibly swarm as early as the middle of April, but the danger of mischief from a sudden cold snap, and having a large number of bees before they can be of any use, makes us think it cannot be good policy. Not but that we would have all stocks strong in April; but then there is also an extreme in having *too much brood early* in the season.

Any one may easily try the experiment for himself. We presume different localities would give somewhat different results.

A correspondent of the Journal mentions a difficulty in laying a frame of broken comb down flat, in the upper part of the hive, for the bees to mend. The caps on the hives we used for that purpose, were made to accommodate boxes, and are large enough to cover the honey board and all, and the honey board is an inch longer than the top bars of the frames. We think it would pay to have a cap made on purpose, to cover a frame when laid flat on a board.

In consequence of the dry weather this fall, we have been obliged to give back some of the honey taken away—about as much as we took of the gathering from the autumn wild flowers; so that the surplus honey given us by our forty-six stocks, (made by artificial swarming entirely, the year before from *eleven*) stands at six thousand one hundred and sixty-two (6,162) pounds, besides eighteen new swarms. The sixty-four stocks we now hive, are all in good trim, and will be ready for work in 1871, *all of them*, we trust—unless we are yet *too* much of a NOVICE.

[For the American Bee Journal.]

Bees in Kansas.

MR. EDITOR:—We have caught a great deal of enthusiasm in reading the two numbers we have received of the Bee Journal. All we are sorry about is that we did not subscribe sooner. Put us down for life, as a subscriber, or at least as long as we keep bees.

But we are not able to crow about the amount of honey we have slung out this season. We wish we could join the enthusiastic chap of Washington Harbor; but the hurrah comes out of the other corner of the mouth, or "over the left."

Bees have done very poorly here this season; worse than for many years previous. There is no doubt that many bees will perish here the coming winter, on account of the scarcity of stores. Intelligent bee-keepers will, of course, endeavor to carry their bees through by feeding.

In the spring of 1869 we had three hives of bees, and we sold 250 lbs. of surplus honey, besides what we used in the family, and increased our stock to fourteen. Every one of these went into winter quarters with more than fifty pounds of honey, and every one came out in the spring all right.

Some persons seem to be astonished at the result of NOVICE's honey harvest this year. But if we had last year restricted our number to the same rate of increase as Novice did his, we might have netted at least 250 lbs. of honey to each original hive we had in the spring; which would have beat Novice all hollow. But, as to this year, we have nothing to say. We did sell 20 lbs. of surplus honey, and increased our stock from thirteen to thirty; but at least half of them will have to be fed or they will starve before spring. This season the linden trees failed to blossom, and though the late sumac, buckwheat, and other fall flowers blossomed as usual, but the honey was not in them. If it had been, I know the bees would have got it. Why the flowers failed to yield honey is a mystery to me.

We have the usual enemies to bees here as elsewhere, in the shape of birds and moths. But the worst enemy of all that has appeared, is a large animal or biped. He has infested this community for nearly a year; and has been seen to put bees in his mouth by handfuls. But it is not the bees that he puts in his mouth that do the damage, but the lies that come out. This biped calls himself the "bee-man," or L. Twining, "Patent Bee Hive Vendor," and seller of *six secrets* for handling and managing bees. For ten dollars he will tell you what the six secrets are, and give you a piece of paper that says you have a right to use a certain improvement on bee hives patented by E. F. Chevalier. The hive that he exhibits as his patent is a box-hive, made about two inches wider at the top one way, with the Langstroth frames; and for every right he sells he could be prosecuted by the owner of the Langstroth patent. This box sits on what he calls a "bee protector," a miller trap and feed trough—two capital places to breed moths. If rightly named it would be called *bee-killer*.

But with his system you can make from sixteen to sixty-four swarms from one, in a single season—that is, if his own word was good for anything. Though he generally requires a pledge of honor that the secrets shall never be revealed, he neglected to require that from several, and the secrets are out. I was going to say that I would put them down here for the benefit of the readers of the Journal; but it will be no benefit to the reader unless a hearty laugh would do him some good. We here quote from the *bee-killer's* circular, that you may form some idea of the great value of the secrets before we tell you what they are.

"Our secrets are: 1st. *Taming bees, however cross*, so that they can be handled as readily and safely as flies, by any one.

"2d. A food that costs nothing and is always at hand, by the use of which the largest swarm of bees can be well wintered and *not consume five pounds of honey*.

"3d. A costless substitute for bee-bread, for want of which whole swarms frequently perish, while the hive is full of honey.

"4th. A prevention of drone bees, which eat not less than 25 lbs. per swarm, *each season*, and is, therefore, so much thrown away.

"5th. A place or situation for bees, both summer and winter, by which *bee cholera* and other destructive diseases *are generally avoided*.

"6th. A bait for millers, also costless, which attracts and destroys this pest of the apiary.

"This discovery is the result of the *one hundredth experiment* of Mr. Twining, and is worth *more than twice the price* of the *Right*."

Now we will give you the great secrets, in the order as above :

1st. "Smoke the bees well ; close the hive and drum on it a few minutes. Then rub urine on your hands and face ; open the hive ; put your hands over your face, and your face down close to the bees, and blow on the bees through your fingers.

2d. "Urine evaporated in the sun about two weeks in an oak trough.

3d. "Ground chess.

4th. "Cut out the drone-comb.

5th. "Keep your bees on the north side of buildings, out of the hot sun in the summer, and where there is no foul air.

6th. "Whey off thick milk cheese."

Now this charlatan of a beeman will soon infest other sections of the country. For a complete remedy, apply to Prof. Jared P. Kirtland, Cleveland, Ohio, or to the undersigned.

NOAH CAMERON.

Lawrence, Kansas, Oct. 28, 1870.

[For the American Bee Journal.]

Something on Hives.

Last year I made and used four Price's hives, as described in the Journal Vol. IV., page 87, and I like them so well that I have increased the number to twenty-four. Many persons have been at my apiary to see this Price hive, and after seeing me handle the bees and the hive, and I ask them—"Well how do you like the hive? the answer invariably is—"tip-top! That beats anything I ever saw. That can't be beat!"

I sold a swarm to a man, and in selecting it we handled over four stocks, and he remarked—"I have been looking for miller-worms, and have not seen one yet." With a half pitch to the bottom board, tight joists, and rosin and tallow melted together and poured hot into all the corners of the hive, we may say good-by to the miller worms.

To winter bees on their summer stands, this hive cannot be beat. I take off one of the honey-boards and place an old bag or a piece of old carpet over the frames, letting it rest right on the frames, and then fill in all around with dry chaff or cut straw. The bees will not fly out and perish on the snow, nor freeze in the hive. When I opened my hives last spring there was not a particle of mould on the combs, and I never had my bees winter so well before.

There is no crushing of bees with me, such as Mr. Duffeler complains of. I plane the division board to a sharp edge, and by being a little careful, can set them down while the bottom board is covered with bees, without ever crushing one. Mr. Duffeler also complains, that his combs are uneven and all gone astray. I have a lot of as straight combs as you will find in any apiary in that size of frames. I think Mr. D. went astray when he broke up the whole concern. If he had followed the directions of Mr. Price, he would have had no difficulty in getting straight combs. Perhaps he does not understand Mr. Price's directions. He says, also, that he does not know what Novice means by being well *rooted* in strong stocks. There is a thirteen year old boy in our town, who reads the Bee Journal, owns three swarms of bees, and hived and sold humble bees to the boys last summer. I asked him if he was going to pick a good strong stock or swarm of bees from my apiary, what one he would take. He replied—"one that had plenty of honey and lots of bees."

Some may think, that I have an axe to grind, and want some one to turn up with plenty of greenbacks. To such I say, I have no hives for sale, and no interest in bee-hive territory. Mr. Price is a stranger to me, excepting what little I have learned of him through the Bee Journal.

I think Mr. O E. Wolcott, (who lives about seven miles from me,) would not have lost his apiary of over sixty stocks, if he had used a hive that was deep up and down. The bees would have kept warm, and the honey would have supported them.

There are but few here that are Italianizing their stocks, most of the bee-keepers being afraid, apparently, that the Italian bee is a humbug. I have four swarms of Italians, and am going to Italianize the rest of my colonies as soon as I can. I think I ought to be on the sleeping car, for it is bed-time.

Argentine, (Mich.) Oct. 15, 1870.

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* The writer of the foregoing forgot to give us his name, though remitting for his subscription. *Whom shall we credit ?*

[For the American Bee Journal.]

A few Inquiries.

MR. EDITOR :—I wish to ask through the Journal for a description of Mr. Gallup's hive, or the one he prefers or has in use, if he will give it. I am using what we call a Quinby hive, or Langstroth Quinbyfied ; but would like one with side arrangement of boxes.

I would also ask some of your correspondents what is the difference between cross and side frames, or frames running from front to rear or from side to side.

I see a great deal written in the Journal in regard to cheap Italian bees, seeming to touch Mr. Alley somewhat. I bought some from him this season. The first was the finest queen I ever saw, and I have seen a few before. I think he is in every respect a gentleman to deal with.

Mr. R. S. Terrey, of Bangor, Maine, had hives and bees at our State Fair, and honey also. His hive is eight inches deep, made to set one on top of another, from one section to any number wanted; but I do not like it.

I like the Bee Journal very much.

H. B. CONY.

Augusta, Maine, Nov. 3, 1870.

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[For the American Bee Journal.]

Artificial Queens, and Swarming Fever.

I cannot let Mr. Price, in the November number, make a catchword for his hive, with my article of September, 1870.

The hive I intended to speak of is not the *Reversible, Revolvable, Double-cased, Sectional Bee Hive*, but simply a modification of the old pattern of the Price hive, as described and engraved in the American Bee Journal, Vol. IV., page 87.

After having manufactured a number of these hives, I was compelled to break them up; for the square frames, held angling, were so much *reversible* that they capsized badly. In order to prevent that vexatious reversibility, I contrived to re-construct those hives, giving them frames with *five* sides instead of *four*. By this means, every frame was increased in surface; and it is to that increase, and to the shape of the frames that I attribute, in part, the success of my bees in those hives.

Mr. Price thinks that our *wisdom* of artificial queens is *running the race out*. I have heard some temperance men maintaining that wine is poison. I smiled at that idea, thinking that wine must be a very slow poison, for all my ancestors died more than seventy-five years old, although drinking wine freely at all their meals. I guess it is the same with artificial swarming. For twenty years the Italian bees have been subjected to this mode of queen raising, yet the Italian race is better than the naturally swarmed black bees.

For instance, this spring I sold to Mr. Roberts, of Provo City, Utah, fourteen hives, which all had artificially raised queens. Besides those, Mr. Roberts got one hundred and fifty stands of black bees, whose queens were all naturally raised. Yet my artificial colonies proved to be so much better than the blacks, that Mr. Roberts wrote to me, some weeks ago—"I am so contented with your Italian bees, that I wish I had bought all Italians."

Mr. Roberts will be present at the Bee-keepers' Convention in Indianapolis. Mr. Price, or any other person feeling interested, can question him as to the truth of my allegations.

Some time ago Mr. Gallup wrote to the American Bee Journal, that the artificial queens were poorer than natural ones. But he seems to have modified his views on that subject somewhat, for he writes in the October number of the Illustrated Bee Journal—"My theory is that a larvæ fed, as a worker, six days, and then changed to a queen, is but very little if any longer brood than a worker. Yet a queen cell, built over an egg, and fed as a queen from the start, I have not been able to discover why they are not as good as a natural queen raised at swarming time."

Some queens in Gallup's apiary emerged from their cells after eight or nine days. I have never seen queens emerging in eight or nine days. The shortest time I have recorded was some six or eight hours less than ten days.

Let us remark here, that when honey is abundant in flowers, and the weather warm, no matter in what month, every good colony raising queens gets the swarming fever; and if the bee-keeper does not remove the supernumerary cells, there is the greatest likelihood that he will get one or more swarms from the colony rearing queens.

The means used by Mr. Price to obtain or produce the swarming fever are, of course, idle,—that fever being a natural consequence, in a good stock, if building queen cells in favorable weather.

But I do not see what influence that swarming fever can have on the more or less vitality of the grubs!

Some credulous people believe that the crop of potatoes is more abundant, if the sets are planted during the old moon, than if set at the time of new moon. I suspect the swarming fever has as much to do with the grubs, as the moon with the potatoes.

Hence, till some more serious reasons are advanced by Mr. Price, I, and many others, will not admit that, in raising queens artificially, we act against nature, reason, or common sense.

C. DADANT.

Hamilton, Ills.

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[For the American Bee Journal.]

A Summer's Operations.

MR. EDITOR:—I have been experimenting some with bees, hives, and melextractors, the past season. I am too busy at present to write much, but will give you the results of my operations with one colony of Italians. They were in a Langstroth hive with eight frames, in the spring, with a pure Italian queen procured from Mr. W. H. Furman, and introduced late last fall.

July 10th, had drawn eight frames with brood and bees, to rear queens.

July 29th, forced a full swarm "Gallup fashion," with old queen—compelling the old colony to raise a young queen for itself.

August 10th, transferred the old stock to a ten frame hive, giving them two empty frames to fill; and also cut out eight "natural, prolific, hardy queen cells." (Price.)

September 3d, extracted forty (40) pounds of honey and got a No. 1 swarm, leaving plenty of honey for winter.

I do not know how I could get along without the American Bee Journal, and am trying to persuade all my neighbors to take it also.

J. E. BENJAMIN.

Rockford, Iowa, Nov. 7, 1870.

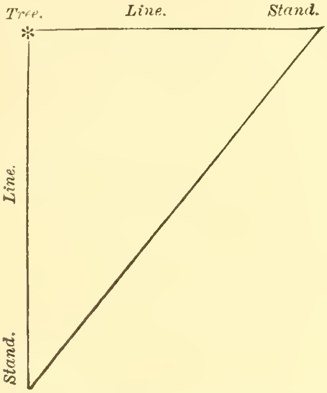
◆

Water is absolutely indispensable to bees when building comb, or raising brood.

[From the Western Rural.]

Hunting Wild Bees.

Bees are generally hunted in the fall, after the flowers have failed, or we have had one or two sharp frosts. The hunter takes with him into the woods a dish in which there is honey in the comb, and an ash pail in which there are some live coals covered with ashes. An opening where a bee can be seen some distance is selected. For convenience in "lining" the honey is placed on a log, stump, or bush, a few feet from the earth, with the fire near it. A small piece of comb is put on the fire. The smoke from the burning comb attracts the bees; they soon find the honey, fill their honey sacs, and leave on a "bee line" for home.



The hunter estimates the distance he is from the bee by the length of time the bee is gone, and also by the number of bees he has at work in a given time. If he is confident that he is near the tree, instead of getting them at work again directly on the line, he moves either to the right or to the left of it. For instance if the line is due north, he moves his "traps" northeast or northwest, to where he can get a line at a right angle with the first one, and finds the tree where the two lines meet.

J. H. Townley.

Parma, (Mich.)

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[For the American Bee Journal.]

Remarks and Inquiries.

Mr. Editor:—We are behind the times in this country, and as regards the improvements of the Nineteenth century, we are living in another age. Too many of us in milling, have not discarded the old custom of our fathers of carrying a stone in one end of the bag, to balance the grist in the other. Some have purchased the *improvements* offered, but have been so badly bit, they are like the *burnt child*:—and now all over this country, in some out-of-the-way place, in yard or outhouse, can be found patent churns, washing machines, rat-traps, and bee-hives, all useless, but costing their owner such an inadequate outlay, compared with their real worth, they were not committed to the kindling box, but allowed to remain on the premises, as monuments of "the fool and his money!"

Now, Mr. Editor, we do not know how it is in the States north and west of us, but it appears to us that all the patent useless machines and implements of the inventive "wooden nutmeg, and horn gun-flint" New Englander, find their way down here; and *ad captandum vulgus*, the owners or their agents assume and put on a grave, sanctimonious expression, while they tell us, the only inducement in visiting us was *pro bono publico!* The *model* in his hands works like a charm, and he finds a purchaser for State and county rights, to make and use, pockets his money and away he goes. But when the concern is made up LIFE SIZE, it won't work, and the whole patent family of improved implements are abused and cursed, and many really valuable inventions cannot be sold, because worthless ones have found their way in our midst.

We have extended to a greater length than intended, our introduction to some questions which we wish to ask through the Journal, desiring some correspondent to answer them. On reading the experience of persons who have the past season, used the melextractor or honey slinger, we are entertaining visions that after the smaller vessels are filled, we shall resort for repositories of honey to the tank or cistern. We have never used the extractor, nor have we yet seen one at work, but we intend to have one next spring. Now the questions—

1st. Whose extractor do you use? Does it work well? And what is the price?

2d How often do you extract the honey from the same comb? Do you wait until it is capped?

3d. If the honey is not capped, and is thin and watery when extracted, will it not ferment and sour?

4th. Do you extract honey from combs having brood within it? If so, what becomes of the uncapped brood?

5th. Is the colony not troubled with robbers, on replacing the dripping frame into the hive?

These are some of the troubles that present themselves to my mind, at this distance; any suggestion of those experienced in its workings will be of interest, Mr. Editor, to several of your readers and lovers of nice honey. It occurs to us that if honey is extracted within a day or two after it is deposited in the cells by the bees, it will ferment and spoil; or if it does not, it will not be so valuable.

Let us hear from those who have practically tested these Honey Extractors, for we are seeking for *further* light in this *bee*-nighted region. Do not read this and throw your paper aside, for some one else to answer, or speculate upon in their own minds; for we are in earnest, and really want an answer to the inquiries we have made.

W. P. Henderson.

Murfreesboro', Tenn., Nov. 5, 1870.

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Until the fifteenth century honey was used instead of sugar.

[For the American Bee Journal.]

Report of a Beginner.

Mr. Editor :—As I am a beginner in bee-culture and this is my first communication to your much esteemed Journal, you must excuse brevity or length, whichever it may turn out to be.

In the spring of 1864, I purchased three stocks of bees in gums, made of hollow logs, having not even a hole in the top for ventilation, let alone for the bees to work through into surplus boxes. Well, I had some other common hives made, with caps, and used them with varying success until the spring of 1869, at which time I had still only three stands of bees. I had been trying all the time to increase the number, and with but little success, and got no surplus honey from them. In the spring of 1869, I obtained some movable frame hives, believing that I could make them a success; at least I could get at and be revenged on these pests, the bee-moths, that had robbed me of my expected luxury. Well, I split my old gums open, and removed their best combs and the brood, in May, to my movable frames. From one of the stocks thus transferred, I took 128 pounds of surplus honey. From the other two I took from 40 to 50 pounds surplus. The one from which I took 128 pounds swarmed once; the others cast three swarms each.

My bees wintered out on their summer stands, with only their hives to protect them from cold and storms. The spring of 1870 found me with ten stocks, two of which had no queens, but only fertile workers, according to book theory. In one of these I could find nothing that looked like a queen, and into it I inserted queen cells three different times. They were each time destroyed, and I finally lost the stock. In the others I inserted young brood, but they would start no queen cells. At last I took a good fertile queen from one of my other stocks and put her in this hive. But before putting her in, I took out all the combs and bees, as I was determined to destroy everything that looked suspiciously fertile. Well, I found a nearly wingless queen. I killed her, put my very fertile queen among the bees, and let her thus creep into the hive. But, alas! she was killed by the little wretches, and dragged out before next morning. They then went to work and raised a queen from a sheet of brood which I had put in.

Up to the middle of June bees did well here. Since then the black bees have not gathered as much as they consumed. I have only one Italian stock. It has gathered honey all the season. But my bees are almost destitute of pollen. I have some stocks that have none. I am giving them rye flour. Will they live on it; or can I give them anything better?

A. T. Bishop.

Le Roy, Ill.

◆

The quality of honey varies exceedingly, some being dark and often bitter and disagreeable; while occasionally, when gathered from poisonous flowers, it is very noxious to the human system.

[For the American Bee Journal.]

Foul Brood.

I have lost two hives by this disease in two years. They were both the lightest colored Italian queens that I had at the time. In one the disease was first noticed on the 10th of August, 1869. About one-half of the dead larvæ were in uncapped cells. In the other, it was found on the 31st of August, 1870. The dead larvæ were all in capped cells. About three-fourths of the brood dead. No uncommon smell was noticed.

I had opened the latter hive oftener than others, because it was less crowded with bees. I had seen a few dead larvæ in the fore part of July, but they were soon removed. The colony gained thirty-one pounds on basswood blossoms, in July.

They had no chance to catch the disease. The last bees I got was a hive from Mr. Quinby in May, 1868, which lived two years, and died 1st of March last, of starvation, with a large swarm and no honey. There are no other bees within fifty miles on the main land. This is an island, and the cool air from Lake Michigan might account for less smell than in other places.

There were a few dead bees in capped cells, with perforated covers, in September, in three of my four hives. One of them had cleaned all out by the 12th of October, and two had a few remaining on the 31st of October, when I put them in the cellar. They were all crowded with bees and had plenty of honey. On the 27th of September I took eighty-five (85) pounds of honey from three hives, leaving them forty to fifty pounds each.

I think the first of June next, if they are diseased, I can put them in empty hives and save the swarms; or when they swarm I will not give them a comb from an old hive, as I have usually done.

My four hives gained one hundred and thirty (130) pounds from September 5th to the 24th, or thirty-three pounds each. It is the first time in three years that they gained any after 1st of August.

Henry D. Miner.

Washington Harbor, Wis., Nov. 1, 1870.

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[For the American Bee Journal.]

Introducing Queens—A Suggestion.

Mr. Editor :—From various causes I am not much heard from, and mainly because the abler part of the fraternity are furnishing us with topics and discussions which give to my mind ample food to digest and experiment in what little time I can devote to it now; though I expect, if I am spared, to give my full attention to the work next season.

I will venture to submit an idea in regard to introducing queens successfully, under all circumstances. There has been much said on the subject, and many methods proposed, yet we find all of them failing at times. Now all these methods may be and perhaps are good, if they are applied when the colonies to be supplied with queens are in a proper condition to receive them.

When a colony has larvæ, and young bees hatching, queens can be safely introduced by almost any method, without trouble. But when there are no more young bees among them they are loath to accept a queen; and my experience is that when there is no brood in the hive to furnish young bees, the mature bees soon become too old, and apparently of fixed habits, to receive a queen readily. At least I have found it impossible, under such circumstances, to induce the older bees to accept one. I have offered to such, unhatched queens in the cells, and they would immediately destroy them—none being allowed to hatch.

Now, if there is any brother in the fraternity who can tell us how to deal with such old scamps, so as to induce them to revert to their more youthful habits, and accept an offered queen, the information will be gratefully received by me. I find some trouble even in uniting such bees with other colonies.

S. B. Replogle.

Roaring Spring, Blair county, Pa.

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[For the American Bee Journal.]

Worms in Combs.

A correspondent in a late number of the Journal, said that some of his bees, after gnawing off the caps of the cells, were unable to come out; and he wants to know what was the matter. One word will tell—"worms."

I noticed some of mine in the same fix, soon after reading that article, and on pulling them out I found, as I expected, a small worm-hole near the bottom of the cell. I had before noticed that those bees which could not get out were in lines, and after pulling out a few I found a small worm. They (the worms) work their passage from one cell to another, perhaps two-thirds of the way towards the centre of the comb, eating wax, bees' wings and legs, and leaving a fine web behind, which holds the bees in the comb.

I supposed they were not the larvæ of the ordinary bee moth, as I have generally found these near the surface of the comb. But I put some combs containing these small worms in a glass jar, and in due time had from fifteen to eighteen fine large moths of the ordinary kind. My conclusion is that these worms, while small, work near the septum of the comb, and when grown about half an inch long they work next to the surface.

J. L. Hubbard.

Bricksburg, N. J.

◆

Lying advertisements and plausible misrepresentations of brazen-faced impostors will still drain the purses of credulous [bee-keepers], while thousands, disgusted with the horde of impositions which are palmed off upon the community, will settle down into a determination to try nothing new.—Langstroth.

[For the American Bee Journal.]

Who Will Help?

How can the circulation of the American Bee Journal be increased? is a question that should be considered by all who read it. Now there is a way, and a very good way, to increase its circulation. This, namely: Let every reader and subscriber send at least one—or if more than one, the better—new subscriber, (with the money, of course,) and it would not be long before its circulation would double that of all others published in this country. And it certainly should be so, as the American Bee Journal is the one that should receive the support and cheering aid of all bee-keepers throughout the country, and for the following good reasons: It was the first one published in the English language, commenced in the sole interest of bee culture, and sustained for years by the editor, at a sacrifice of time and money. And all who read it, (at least in this part of the world,) say that it is the most reliable and the most interesting of all they have seen; and we will say that we know something about the bee papers of this country. Secondly, the editor of the American Bee Journal does not occupy any portion of its columns with his own advertisements; and, in fact, he offers no patent bee hives, text-books, queen bees, or other clap-trap for sale—and when we pay for the Journal, we are not paying the editor for a paper containing his own advertisements. We do not want to do or say anything against other bee journals sent out in this country, but we do want our favorite American Bee Journal made to pay for the trouble and time it costs for publishing it, and to this end we offer the following

PREMIUMS:

To the person who sends in the largest number of *new* subscribers before February 1st, 1871, I will send one of my

BAY STATE BEE HIVES,

free of cost, or one of the best, most convenient and lightest

HONEY EXTRACTORS

offered for sale. Said machine is made of metal, and with ordinary care, will last a lifetime; and I will guarantee that one person can empty from one to five hundred pounds of honey per day, with the use of it. I have sold these machines for *ten dollars*.

Further, to the person who sends the second largest number of new subscribers, I will send *two* of the best and purest

ITALIAN QUEEN BEES

I can raise. And to the person who sends in the third largest list of new subscribers, I will send one pure Italian queen bee.

I will add that I have no interest in the American Bee Journal, only in common with other readers; but as I advertise in its columns, I expect, if its circulation is increased as it deserves to be, to have a corresponding increase in my business.

H. Alley.

Wenham, Mass., Nov. 7, 1870.

☞ The above offers are the spontaneous act of Mr. Alley. For the appreciation of the Journal thus expressed and implied, we are duly grateful, and will merely add, for the encouragement of those who may be disposed to make efforts to secure the premiums offered, that, in any case of unsuccessful competition, we will allow the usual commission on all new subscriptions sent in. Thus no one need fear that they may be laboring without remuneration.

[For the American Bee Journal.]

Influence of Form in Hives.

Mr. Editor :—In the last number of the Journal, Mr. Smith pitches into our "preconceived theories," as he calls them. He says that we pitched into the shallow form of hives in the August [September] number. This is true; and we did so because we had used them to our sorrow, though when we first used them we thought we had obtained an invaluable invention, as we then compared them with old-fashioned gums and box hives. He says some condemn and some approve of the shallow form of the Langstroth hive. This is undoubtedly so. The first movable comb hive we saw was in 1857, and it was of the shallow Langstroth pattern, the same as is now sent out as sample hives; and Mr. Smith would no doubt claim that Mr. Langstroth got up the first movable comb beehive in America—which we likewise grant as being true. But in objecting to the Thomas hive he says that "five years ago it would have been considered a very good hive, but the world moves." So it does, and in his advocating its good qualities he says "more rapid breeding will be induced in the shallow hive than in the deep one," &c. I fail to see that the world moves in this. The first form of movable hive was low and flat, and his part of the world seems to have progressed from the low flat form of hive to the low flat form of hive. The world moves backwards up there in Canada.

He says, Mr. Seays' theory and deductions therefrom in regard to the production of brood are not confirmed in his experience and observations, and "the facts of the case warrant a very different conclusion." Now what was our theory and deductions therefrom? See September No., page 63. In drawing a comparison between the advantages and disadvantages of the shallow hive and taller ones, we then said, "the combs are say eighteen inches in depth perpendicular, and twelve inches wide. The bees, in order to hatch brood, as the weather becomes warm in the spring, will cluster at the larvæ end of the combs, and keep up the temperature from bottom to top, because of two combined reasons—the combs being the long way perdendicular; and the natural tendency of heat being to rise, it ascends throughout the entire length of the combs, and thus the proper temperature is attained throughout the hive." This we yet maintain. It appears from what Mr. Smith admits in this same communication that he does not understand my remarks, or if he does, he virtually admits that we are right.

It seems that when we said "as the weather becomes warm in the spring the bees will cluster at the larvæ end of the combs," he wishes to construe our language to mean in winter; for he must know that good strong colonies rear brood in winter, and if I had entered into a minute description of the manner of procedure, time, and place, that the first eggs are deposited, I would have stated, as he does, that in tall hives they begin to rear brood near the centre; and in some cases, where the honey is nearly all consumed, they begin nearer the top, extending the same downward. And in our language, "in early spring, as the weather becomes warm (as in May) the bees cluster at the larvæ or lower end of the combs." The heat as generated ascends throughout the entire length of the brood combs. Now we did not intend to say that all the mature bees were compelled to go below the extreme lower part of the brood; but that a portion of them *must* cluster below and upon the lower part of the brood combs, in sufficient quantity to produce the required temperature, otherwise the queen will refuse to deposit eggs there, or if she should deposit any there, they would not hatch. The bees must therefore cluster *en masse* below the brood.

We make one further quotation from his remarks, and are done. He says, "A tall hive is thought best for wintering out-doors, for we know that bees will place their stores above them when there is room. We know also that they do not cluster on the honey, but below it; and the heat from them ascends and makes their stores more accessible in cold weather. But how is it with the breeding early in the season? &c. What he means by the 'larvæ' end of the comb, I do not exactly know. If he intends to say that they cluster at the bottom of the brood comb, so that the heat will ascend and warm up the upper part of the brood comb for the extension of brood, facts do not warrant the assertion." After having but a few lines above admitted that he knows they cluster "below" the honey and that the heat from the cluster "ascends and makes their stores more accessible" in cold weather, he now says that "facts do not warrant the assertion" that they will and do cluster at the bottom of the brood combs, so that the heat may ascend and warm up the upper part of the brood comb. Why will not the same natural *immutable* law of nature that causes heat to ascend and make their stores more accessible in cold weather, ascend also in warm weather (as the bees descend to the bottom, for the purpose of extending their brood?). He further says, for a certain reason, that "as the warmth of the cluster will be *diffused laterally* more readily than it will downwards, more rapid breeding will be induced in shallow hives than in deep ones—that the heat will *radiate* towards both ends from the centre" (in the shallow form of hive). This has always been the trouble with me. Heat, in obedience to the natural law, to seek its equilibrium in temperature, as he says, *radiates* away from the cluster, and thereby gains a lower temperature; and as other air in the hive takes its place, and is rarefied in turn to the given temperature, it also radiates away in its efforts to comply with Nature's demands for an equilibrium, and the rarefied air in ascending passes away from the cluster. This is without hindrance too much the routine in the shallow form of hive; but not so in the taller form, because the heated air, in obedience to the natural law, passes upward; and because the inner walls of the hive being closer together, and the top not allowing the heat to escape, it is more compactly pent up, so that when the radiations take place, they pass not to so great a distance laterally, and the bees can thus retain a given temperature in a larger space than if the equalization by radiation in the shallow hive were not permitted so far from the cluster that the natural law of heated air to ascend, cannot govern it.

Mr. Smith gives his experience in favor of the shallow form of hive, alongside of the Thomas hive. His statements are no doubt correct; but his experience is different from many, very many, others.

The second communication in the same number of the journal, to which this is a reply, agrees with the experience and preferences of thousands. The article referred to is that written by Mr. Calvin Rogers, of West Newbury, Mass.

We are not particularly defending the Thomas hive. We believe that Mr. Smith's first objection from his description of the frames and combs being so long and heavy that they break down, is good. I do not know the perpendicular length of the combs and frames in the Thomas hive, but I use frames nineteen inches perpendicular length. My combs are eighteen inches long and twelve inches wide, and I have no trouble about their breaking down; though there is a reason for their not breaking down in the warmest weather.

J. W. SEAY.

Monroe, Iowa, Nov. 10, 1870.

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[For the American Bee Journal.]

Letter from Texas.—Italian Bees Wanted!

MR. PRINTER:—I hear you print a bee paper, and I want you to send me one to look at, to see if I like it. They tell me you always have much nice readings in it about that queer little crittur that has a sweet tooth in its mouth and a sharp sticker in its tail, as Anne Strother's father told the old bee-hunter down at Powett's Tanyard last summer. I have been keeping bees here three years in the old fashioned way, that was thought very good away down east forty years ago and longer, where I was born and raised. But somehow I can't get along with them here, as old uncle Brewster used to do in Hockanum when I was a boy. Why, he used to have lots of hives, and honey by the tubful every fall, when he took up his skeps with the brimstone rags. But here we often get nothing at all now. Whether the miller moths that are so plentiful here eat it all up, or the troublesome busy ants carry it all off, I don't know, and with all my watching could never find out. I sometimes think the bees get bewildered among the many strange flowers we have here, and cannot tell where to look for the sweet; and it were no wonder, such odd-shaped things they are. Maybe if we had other sorts of flowers, apple and cherry blossoms and such like, and hollyhocks and asters, such as they was used to of old, or had other bees better suited to the flowers here, we might do first-rate in this climate where the busy fellows could work almost the year round without interruption. Well, cousin Upson was to see us when he came out prospectin', and he told us some wonderful stories about a new kind of hives they have to home, in which the bees build combs as straight as a ruler on sticks, and of the nice little whirligig twirlabouts with which the honey can be shaken out of the combs right into dishes, all ready for the breakfast table. I half believed his yarns when he promised to send me one of these shakers next spring; but Mehitable, my wife, says there was a queer sort of a smirk on his face, and he gloared so slily with his eyes while he was a telling and we was a listenin', that she's sure he was only trying to bamboozle us by his talk. I'm not so sure about that. Then he told us, too, about a new sort of imported bees, with striped backs and harmless queen stings that never hurts nobody, and can be handled, like well-riddled rye, without gloves, in the hottest weather. Wife doubted again, but I think there's a good deal of truth in the story; for when I was in Austin to buy a plow for neighbor Crume and a new collar for my horse, I hear some talk about such queer bees in the bar-room of the tavern. The chap that was a telling about them had a patent hive to sell, too. It wasn't one of them with the straight comb sticks that cousin Upson spoke about, but the man called it the Moth Worm Banisher. He said it was so fixed that when a moth touched it at night a scratcher strikes a lucifer match, and straightway the sudden flash and glare of light frightens all the moths within fifty feet, and away they go, harum-scarum, with a grand flutter and flourish, seeking to hide in outer darkness. That I think is a good invention, for these moths are troublesome and hard to catch, and the best way is to banish them right off. But about them new imported bees the man said he could not see any great good that came of them after all the fuss made about them, except that they made their honey from red clover tops instead of white, and hunted up all sorts of out-of-the-way flowers in by-places and roadsides, which the old kind of plain bees never thought worth looking at. Besides, he said, that while farmers could only make hay while the sun shines, these new comers would make honey, shine or no shine. This seemed to be saying something more for them than uncle Upson knew; and as everybody in the room appeared to believe what the hive seller said, because he had no interest in the matter, I think there is a good deal in it, and wish I had some. Mr Printer, can't you put me in the way of getting a swarm? I would like to have them soon. Can't they be sent by telegraph, so as to come before Christmas? Swarming time begins here soon after New Year, when the drones have got over their holiday frolics. How much will they cost, though? If they are very dear I could not afford the expense till after the next cotton crop is made. They say a queen sells for five and six dollars! Just think of that! A little insect about an inch long selling at the price of a yearling colt! If the workers sell in proportion, won't they come high, as cousin Zeke reckons it out? Or if you put them down at even a picayune a piece, and there are thirty thousand in a hive, only think what a decent hive would come to, by the rule of three! Then there's the freight too, if they come by telegraph, for the ticking clerk in the office always figures that out high; and so I am afraid that, if sent by that line, they might in the end cost more than they would come to. Aunt Dinah says she has read somewhere in the Penny Whistle Weekly, (which she gets every now and then at the grocer's around some articles she buys,) that they now send these bees, or some kind of bees, by mail. That, I think, must be a good joke! Why, you might as well send a basketful of hornets by express. Phew, I'd like to stand at a safe distance away and see our soberfaced, steady old postmaster open the bag when they arrived! Wouldn't he make tracks in a hurry, and feel worser nor if he had a dozen big fleas in his ear? No, no, that's a little too tough a yarn to be swallowed by any but a greenhorn, though it is in print. But have those bees I will, sooner or later; and if they don't come quite as dear as cousin Zeke reckons it out, I'll get you, Mr. Printer, to have 'em sent by rail and steam even if they don't come till after Christmas. I'd have them sent by express, but that moves as slow in these parts as our old ox team used to do in old Middlesex, on Saturday nights, when we had hitched up to go sparking. Don't forget to tell the man who sells and sends them, to be sure to give them food enough for such a long jaunt, as the poor things mustn't be let starve on the way. Tell him, too, to pack them well and hurry them forward—"*with speed and care, right side up!*"

Before I close, Mr. Printer, I want to say further, that when cousin Upson was here he told us there was great fuss just now away up in the old States, about some wonderful improvements in bee-keeping, which he said they call "scientific beeculture." Now what is that? How is it made? How big is it? Is it patented? Does it go by machinery? Is it hard to learn how to work it? Or must you go to a sort of school or college to study how to manage it, till you get the hang of it gradually? Couldn't an old man learn to fix it up, without leaving home? How is one to get science into a bee gum, I'd like to know? That's a little above my huckleberry, as we used to say at Haddam school, when a hard question came up, and puzzled the head scholar of the class, though we had to work it out, for all that. Well, well, there was no lightening telegraph in them days, and nobody then dreamt of gold in California; so there may be something new in managing bees, though the wise man said, long years before I was born, There's nothing new under the sun. You'll print all about it, I suppose, and we'll see what it is when the paper comes. Send it on at once anyhow, or somehow.

MILES HADAWAY, 3d.

Palo Pinto, Texas, Nov. 3, 1870.

N. B.—Wife says, be sure to ask whether it's certain that the new bees can make honey. Our old ones are rather poor hands at it, and some years don't let us have any. Now, even if the striped fellows should produce six times as much, it wouldn't amount to anything, after all; for in Deacon Downer's school we were always told that 6 times 0=0; and we had to believe it, for not even the smartest boy in the class could *prove* that it wasn't so, and the Deacon ever insisted on *proof.*

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[For the American Bee Journal.]

Where are good Honey Districts?

MR. EDITOR:—I have been attentively watching the correspondence of the Bee Journal, to find out if there is not a better country for keeping bees with profit, than this section of Ohio. Here we have to depend on white clover exclusively, for our surplus honey; and when the season is good, the yield is abundant. But if from drouth, &c., the white clover fails, most of our bees are lost.

I have been keeping bees, "according to Langstroth," for twelve years. In the drouth of 1863, out of sixty hives I lost forty-seven, after feeding a barrel of Cuba honey. In the winter of 1868, I saved only one hive of bees out of forty—lost from the "cholera," caused by drouth and the failure of white clover the summer previous.

Notwithstanding these losses, I have been amply paid for my trouble and expenses. The future of bee-keeping looks so encouraging that I would like to devote all my time to it, if I could find a locality where there is plenty of summer and fall pasturage, or where I should not have to rely solely on the white clover crop.

Bee-keepers, as a rule, are not selfish; and I would like to see the question of the best section of our country for bee-keeping fully discussed through the "Journal." Are there more advantages in the South than in the North?

A. L. BROWN.

London, Ohio, Nov. 14, 1870.

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Like the thorough bred scold, who by the elevated pitch of her voice, often gives timely warning to those who would escape from the sharp sword of her tongue, a bee bent upon mischief raises its note almost an octave above the peaceable pitch, and usually gives us timely warning that it means to sting, if it can.

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The first important occupation of the worker bee is the secretion of wax for the structure of the cells, and, to effect this, honey must be collected, for it is solely from the digestion of honey that wax is produced.—*Shuckard.*

THE AMERICAN BEE JOURNAL.

Washington, Dec., 1870.

☞ The seed of the Partridge Pea (*Cassia chamæcrista*) referred to in our last issue as a bee plant, has been placed in the Agricultural Department, for distribution among bee-keepers. As the quantity available is very limited, it will be put up in small packages and sent to those desiring to try it, on application by mail to Col. Capron, the Commissioner of Agriculture.

A correspondent suggests that the cases of foulbrood stated, in our last number, to have been cured by Dr. Abbe, may have been of the milder form occasionally found in hives, which usually disappears again without doing much damage. But if this were so, it does not follow that the same treatment would not be as judiciously and beneficially resorted to in such cases for the arrest and eradication of the disease, as when it has assumed the more virulent form. We consider the disease as really one and the same substantially in all its forms, only less harmful in its early stages, as being then less contagious, and therefore more manageable.

Under date of Nov. 4, we have a further letter from Dr. Abbe, in which he says:—

"There has not been time enough given to *test* the permanence of the cure, and it ought to be regarded as still an open question whether foulbrood can be permanently cured in this way, for the effect may be only the same as pruning, and the germs of the disease still remain sealed in the honey cells. I shall examine the hives again in two weeks, after all the brood is hatched.

"I have recently found two more hives containing fifteen and twenty cells with the disease, which were left after all the brood was hatched. These I have treated with Nichols' solution of Chloride of Soda, diluted one-half. This promises more than the other remedy, for it not only cleanses the cell, but disinfects the whole hive. I am inclined to the opinion that if the hive has contained the disease for any length of time, it will have to be treated after every crop of brood, or until all poisonous honey is consumed."

It was recently stated that foulbrood is not now one-hundredth part as bad as it was ten years ago. This may be so in some localities, but our correspondence assures us that it is far more extensively prevalent now than ever before, and this for obvious reasons.

☞ We are assured that a National Bee-keepers' Convention will assemble at Indianapolis, as heretofore announced, on the 21st instant, for a two days' session, and learn that many prominent bee-keepers will attend it—though strong efforts have been made, *in private*, to induce them to denounce it and to keep away. Let all who can conveniently attend, do so—taking care not to be "led astray" by anybody. The paramount interests of bee-culture are to be promoted by such assemblages, and not those of any selfish individuals.

The statement made by the Secretary of the North Eastern Bee-keepers' Association at Utica, that we had been led astray by the representations of Mr. Moon, or any one else, is altogether incorrect and unwarranted. Whatever we said was said from our own knowledge and impressions, and Mr. Moon had nothing to do therewith, either directly or indirectly.

No suggestion for holding a National Bee-keepers' Convention was made by us; nor did we furnish any "hints for topics," to the Michigan Association, or assist in any way in preparing its programme. We announced the intended meeting and its objects in our March number, the regular notice calling the meeting, accompanied by the programme, sent to us by one of the officers of the association having failed to reach in time to be inserted entire. We made no comments then or subsequently, and never thought of inquiring whether ☞ "the names of any of the earnest workers for *our* Journal were among those likely to be present." ☜ But we certainly treated the Michigan Association with proper respect, and did not *forget* nor *omit to state* that, as it was proposed to make arrangements for holding a National Bee-keepers' Convention, it was desired to have "a large attendence of bee-keepers from other States and from the British Provinces."—We have an unfortunate knack of losing sight of self-interest on such occasions; but shall endeavor in future to derive a useful lesson from the examples of our very *disinterested* contemporaries, who contrive so laudably to have *both sides* of their bread well buttered on all occasions.

We presume the Secretary of the N. E. Bee-keepers' Association was so busy writing letters to lead (or mislead?) bee-keepers, that he could not furnish us with the report of the proceedings at Utica, till just in time to be too late for our last issue. It came late in the month (after the November Journal was made up for the press,) in a printed copy as set up for the Secretary's own paper—making it morally certain that he would gain a month's headway therein! Very disinterested Secretary—a model of promptness and propriety! Deserves a medal.

[For the American Bee Journal.]

A CARD.

Mr. Editor:—A certain party in this city, is claiming in their circular and the daily papers, that I consider their (or rather his) Honey Extractor better than any others persons I had seen. I wish to state, in justice to myself and others, through your valuable Journal, that I made no such statement in regard to any honey extractor whatever.

Yours respectfully,
Charles F. Muth.
Cincinnati, Ohio, Oct. 18, 1870.

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CORRESPONDENCE OF THE BEE JOURNAL.

Warsaw, (Minn.) Oct. 3, 1870.—This has been a poor season here for bees, except in basswood time.—L. B. Aldrich.

Winterset, Iowa, Oct. 10.—The weather was very dry here in June, July and August, so much so that we shall get very little surplus honey. Buckwheat bloomed finely, and bees have got plenty to winter on, and some to spare in some hives. September and October thus far have been very wet, except one or two days at a time; and now it is wet and cold or the bees could have gathered a good deal of honey in the last four weeks.

Well, perhaps some person would like to have an easier, better, and less wasteful way of feeding bees in the spring with flour, so that they will work at it more naturally or like gathering pollen from flowers. It is this: Take good No. 1. wheat flour and put it in piles of one pint, more or less, to suit convenience. Press it down firmly with the hand or anything else convenient. Set it in a warm place, out of the reach of winds, with a few drops of sweet anise about it, to attract the bees; and you will soon see them lively at work on it, if they are in need of it and the weather is warm enough for them to be out. Fine bolted oat meal, buckwheat or rye flour will perhaps answer as well, but I have not tried them yet. They seem to gather it with much less waste, and less is blown away. Bees gather it on their legs, without resting on or wallowing in it, as where it is given loosely, without pressing down; yet they will gather it all up clean, mostly while on the wing, the same as if gathering pollen from flowers.—Mr. Bailey.

Geddes, N. Y., Oct. 18.—This has been the best season here for honey, that I have known since I had anything to do with bees. My experience in bee-culture extends back only seven years, but four years of that time I went it blind, like thousands of others, who, keeping eight or ten stocks, if they got honey enough for their own use, think they are doing well. I started in the spring, with nine stocks and increased them to sixteen, four natural and three artificial swarms. Besides this, I obtained, as surplus, five hundred and thirty pounds of box honey, and seventy pounds of strained honey—leaving from thirty to fifty pounds in each of the hives for the bees to winter on.—My best stock gave me one hundred and ten pounds of box honey.

This I consider a very poor locality for bee-keeping. I live between Syracuse and Geddes, with half or two-thirds of the territory useless for bees. I have not heard of anybody cultivating sweet clover for bees. I do not see why it would not pay to cultivate it. I think if it had not been for the sweet clover that grows along the New York Central Railroad my bees would not have stored any surplus honey this year. This clover is in blossom for over two months, and is alive with bees when the weather will admit.—I consider two dollars invested in the Bee Journal, money well spent.—H. O. Salisbury.

Wellsville, Mo., Oct. 18.—Our season early was good. Dry weather through May and June spoiled our season, till the middle of July; since then it has been good. Bees are strong in winter stores. Ours is a good bee country.—J. Barfoot.

Willow Branch, Ind., Oct. 20.—I have not done quite as well with my bees as I expected, this season. July and August were very dry. Commencing in the spring with seven colonies (all black bees) in log and box hives and not an Italian bee within ten miles. With the assistance of Dr. Hathaway of Muncie, we transferred them on the 27th of May into Langstroth hives, made fourteen out of the seven, Italianized them, and on the fourth of July run them up to twenty-six by artificial swarming. The drouth then setting in and continuing so long, I was almost scared about my pets, but with September there came good rain, and as I had sown 4½ acres of buckwheat they laid up plenty of winter stores from its sweet bloom, though they did not give me any box honey. They were like Novice's bees, "nary comb" would they build. Now, by the way, Mr. Editor, Who is Novice? and where does he live? I wish to know also where Alsike clover seed can be bought on reasonable terms. I want to sow from five to ten acres next spring.

I am going to try to winter my bees on their summer stands, as they all have plenty of honey, and I have no melextractor, to take it from them with.—Is it common for bees to stop breeding so early as the first of October, while the weather continues fine? Mine ceased that early this year.

I can recommend Dr. Stephen Hathaway of Muncie, Ind., and Mr. Adam Grimm of Jefferson, Wis. as being reliable and responsible queen bee breeders, so far as I have tried them. I do not see how any bee-keeper can do without the Journal. Success to it, and all bee-raisers.—J. Smith.

Ridgefield, Conn., Oct. 21.—Bees have done well here this season, although it has been very dry since June. My Italian stocks are very heavy, fully one-third heavier than the blacks. I believe I am the only one in this town that takes the Journal, and am sorry that I have not the first four volumes. I have tried to get others to subscribe, but they say they cannot afford it; while I am certain that I cannot afford to do without it.—S. W. Stevens.

Lattner's, Iowa, Oct., 27.—Enclosed find two dollars for the Bee Journal, which I think is as necessary for a beekeeper, as a compass for a sea-captain. The honey harvest for 1870 is over, and in this locality it has been a good one. My bees have done well. I have a credit for their account of eighty-four prime swarms, and eight hundred and forty-two dollars for honey sold, with about two hundred dollars worth yet on hand, for this season's work. My best hive yielded 242 lbs. of honey and one swarm. The honey was taken out with the honey extractor, and sold for twenty-five cents per pound. The swarm yielded thirty-six pounds of box honey, at thirty cents per pound. Whole amount from the best hive, fifty-one dollars and thirty cents ($51.30) and one swarm (Italian) worth ten dollars, ($10.)

Next season will probably be a poor one for all those beekeepers who do not use movable comb hives and the honey extractor, for this reason: The hives are all filled with honey (sealed) and no room to breed, or at least very little. Next season there will be late swarms and small ones, out of all the hives that are now the heaviest and the strongest, unless the honey is taken away this fall or next spring—that is, what they can spare. I find that colonies with plenty of bees in the spring, and but very little honey will, with a little judicious feeding, yield the largest swarms and the most surplus honey. At least this is my experience.—P. LATTNER.

WEST SPRINGFIELD, Mass., Oct. 24.—When I put my bees on their stands last spring (end of March.) I found one stock had quite a supply of drones, and drone brood in all stages. The queen was a fertile one hatched late in the previous fall. There was plenty of worker brood also. They have done well through the season. This was to me entirely unprecedented at that early season.—I found a young queen, too, in a rather weak stock, that for some weeks during the spring deposited eggs by the quantity in the cells—from fifteen to twenty in a cell. After strengthening them by inserting two frames of maturing brood from a strong colony, she ceased laying more than one egg in a cell.

A large proportion of the bees in this section were "*winter killed.*" Mine came from the winter repository in good condition, and during the period of fruit blossoming stored more honey than I ever knew them to do before. Some colonies were seriously injured by their great accumulation of stores. A free use of the "honey slinger" would have prevented this. White clover was very scarce, the season having been unusually dry, so that the supply of surplus honey is small. But the stocks are all heavy this fall, from the buckwheat and wild fall flowers.

A month seems a very long time to wait for a visit from *so welcome a friend as the Journal*, and I unite my earnest wish, to the many already expressed, that it may soon be permitted to visit us fortnightly. With hearty wishes for the complete success of the Journal, yours, &c., N. T. SMITH.

CHARITON, IOWA, Nov. 4.—My bees have not done any good this season. I shall have to feed my black bees through the winter. My Italians have done better. On account of the late freezing in the spring, followed by drouth until July, pasturage was scarce. Then during August, September, and the first part of October, we had an unusual amount of rain. Taking the season through, it has been very unfavorable. Out of twenty stocks only one showed any disposition to swarm. There are no Italian bees in our county, except my own. I did not get mine until last May, and have not had a good time to test their merits; but with what little experience I have had with them, I think they are far superior to our common bees.

I would by no means miss the monthly visits of the Bee-Journal.—J. A. BROWN.

EAST HARDWICK, VT., Nov. 7.—The present season has been very good for surplus honey, with us. We have taken two thousand and fifty (2050) pounds from fifty-five stocks; and an artificial increase of ten swarms, all in good condition for wintering. —J. D. GOODRICH.

ARGENTINE, MICH., Nov. 7.—Here are two dollars for the Bee Journal. I would not do without it for twice two dollars; and speak a good word for it every chance I get.—Bees have not done well here, in storing surplus honey. They have stored a little cap honey, and gathered enough to carry them through the winter.

I have kept bees about eighteen years, and have had the bee fever rage quite high by spells. But the loss by millers, hard winters, and poor honey seasons, allayed the fever only to return again with the first good honey season; and now I think it has become permanently located with me.—

LAKE, STARK CO., OHIO, Nov. 9.—Bee-keepers in this section of country are generally many years behind the times. A considerable number of persons, however, keep a few stocks of bees; some few still adhere to the box hive and sulphur pit. A few are using the Langstroth hive and like it. These let their bees swarm and give them some attention. The majority have been using the Flanders' triangular hive; but this hive is in bad repute, and nearly all who still have it are about ready to do as I have done—quit using it. Mr. Gallup's hives are liked by all who have seen me operating them, and a few of my neighbors have begun to use them. Italian bees have been introduced here only to a small extent; but all who have them speak well of them. I consider them very much superior to the blacks. My pure stocks are so peaceable, that I can usually handle them during the honey season without smoking or coaxing. But my hybrids are decidedly cross, and sometimes difficult to control. The past season was rather rainy here on account of which the apple blossoms were almost entirely lost to the bees. White clover yielded abundantly from the 1st to the 22d of June, inclusive. Fully one half of this time was also lost by rainy weather. But notwithstanding all this, the bees made a fair amount of surplus honey, and with few exceptions stock have sufficient to winter over without feeding.—H. CRIST.

BORODINO, N. Y., Nov. 12.—The season of 1870, has been very good for bees in this section. Although we have suffered from the drouth, there has been scarcely a day till October, but what bees could gather honey. My bees gathered on an average sixteen pounds per stock from apple blossoms. The Italians are far ahead of the blacks, not only in honey gathering, but in disposition and beauty. It is not necessary to use any smoke, when operating with them. I have one swarm that gave me one hundred and twenty-five (125) pounds of box honey, and a very large swarm besides.—Every bee-keeper should take the American Bee Journal. No person can be a constant reader of the Journal, and not be amply paid in keeping bees.—G. M. DOOLITTLE.

STRINGVILLE, OHIO, Nov. 12.—I enclose two dollars for the Journal, thinking it will be money well spent. I have thirty stands of bees, and am now building me a house to winter them in. I shall build it on the plan that Novice built his.—I have not been so fortunate as some, this season, but have been getting more Italian queens and hope to do more another season. I have tried Alsike clover, and think it will pay to raise it both for bees and for fodder. I wish you success in your enterprise.—H. L. AVERY.

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[For the American Bee Journal.]

Running Comments.

In perusing the November number of the Journal, I find some very good ideas advocated, and some that do not lay quite "chunk," as friend Moon would say. The first article, on foulbrood, I know nothing about, having never seen anything of the kind in these parts. Next article, by J. Stahali, is good. The next is by L. C. Whiting, on purity of Italian bees. I see he is getting on the right track, in regard to breeding pure bees. I was also glad that James Haddon received a good Italian queen of Mr. Alley. Next, Novice pitches into the Rural New Yorker, for not telling when to remove bees, but leaves us in the dark as much as the Rural. What say you, friend Novice? I should think it better to move bees in the night than in the day time, when one half of them are out of the hive, as was the case with the beeman referred to. Bees may be moved at any time when they are all in the hive, either at night or in the day time. It is difficult to move bees at any time, without loss, unless they are moved from three to four miles. New swarms should be moved immediately on hiving, to their permanent stand. It is well to move while some are on the wing, as they will follow suit and attract one another to the hive. If any should get bewildered, they will return to the parent hive. If left where hived until dark and then moved, as the general practice is, large numbers flying out next day will repair to where they were hived, and from there to the old stand; and such are generally destroyed by the bees. Yes, friend Novice, that is right! Pitch into the hen-roost moth-trappers, and those that kill bees in June, or in any other month in the year, for their honey. Yes, clean them out, *Root* and branch! And I will tell you how to manage those queen cells. Remove the queen two days before inserting the cells; then place the cell in the comb surrounded by unhatched brood, and place it near the centre of the brood chamber. I do this for two reasons; First, the bees will not be so liable to destroy the cell; second, the queen cell may be kept in a uniform temperature, that the queen may become rightly and fully developed. Cells placed upon the top of frames, or outside of the clustering bees, are more apt to be destroyed by the bees, or to get partially chilled and thus not mature perfectly. Next, we come to Price's Natural Prolific and Hardy Queens. But as I have an "axe to grind" in this queen business, I will just simply say, that all queens I have seen are natural ones, and I claim that bees do not know how to make *artificial* queens. Next, G. M. Doolittle has smoked his bees to death with tobacco. I hope he has learned a lesson, and that no one else will allow his bees to be smoked with tobacco. It makes them cross and irritable for weeks after. Next comes Ignoramus and the looking-glass. It seems this, like a sun dial, would not work on a cloudy day; but as he says he writes for the Bee Journal for a purpose different from the object of a teacher, we will let him pass, hoping to hear from him again. Next Pösel says that if a colony of bees has suffered from hunger for twenty-four hours the fertility of the queen is impaired. Pösel is correct. All queens chilled till they are dormant are worthless. Although most of them will afterwards, when revived, lay a few eggs, they will soon be superseded. My friend, Thaddeus Smith, of Pelee Island, I see is pretty well satisfied as to bee-hives. Then comes the Thomas hive, by George Cork; Shallow or Deep Hives, by Calvin Rogers; Wintering Bees, by R. Bickford—all of which I let pass, as "doctors disagree." Gallup on Ventilation. Yes, that three-inch hole is all right, so there was no other hole. But how would it have been, had there been a hole at the bottom of the gum, with this one at the top? My doctrine is, give bees plenty of ventilation; but only at one place, so as to avoid a current of air. Levi Fish thinks Alley's improved hive is just the thing, and thinks we had better all try it. Next in notice comes J. M. Price's rag-smudge. I differ with him in regard to smoke. Don't smoke your bees with rags or tobacco. Rotten wood answers every purpose, much better. Of course, Gallup will help H. Nesbit out of his mishaps with the queen nursery and fertilizing cage. I can do nothing for him, being a disbeliever in such fixings. My plan is to keep two or three queenless colonies, giving them brood from time to time, from my breeding queens, so as to have queen cells of suitable age to transfer whenever needed. These cells I use for rearing queens and making artificial swarms, giving a queenless part a cell. It is much cheaper than to furnish them with fertile queens, and altogether better than to let them rear queens from the egg.

One word more, and I am done. In regard to our National Bee-keepers' Convention, to be held at Indianapolis on the 21st and 22d of December, I hope all who can will attend, and bring with them their improvements, hives, honey extractors, and in brief everything that will be essential in practical bee-culture. We expect to see men there, too, whose judgment will do to rely upon. So bring along all the fixtures, and let us see who has the best. In regard to the controversy about the National Convention, I for one am free to say that I believe the Michigan Convention acted fairly and honorably, giving *all* a cordial invitation to attend their Convention, and have a voice in determining where the National Convention should be held. If we failed to attend their meeting, I think we should hold our peace; and we hope that friend King and others, if others there be that do oppose, will yet see proper to act in good faith with the Michigan Convention.

A. BENEDICT.

Binnington, Ohio.

[For the American Bee Journal.]

The Looking-Glass—Concluded.

MR. EDITOR:—I see on pages 102 and 103 of the current volume of the Journal, that Mr. Doolittle and Mr. Ignoramus bring conclusive *proof* against my theory in regard to the looking-glass stopping decamping bees; so I will have to give in, but have the satisfaction of having caused the proof to be produced, which will undoubtedly convince many others who thought as I did.

I have seen so many erroneous articles in print, that I am inclined to look upon many things I see written about bees with some doubt, until they are fairly proven to be true, by such evidence as Mr. Ignoramus and Mr. Doolittle have adduced, sufficient to convince the most skeptical. Now, Mr. Ignoramus, I think as you say in the Bee Journal, that we should all put our shoulders to the wheel and help on the cause of bee-keeping. And in order that I may add further testimony to your side of the looking-glass, I will, if health permit, next season, allow some half dozen swarms to start off for the woods, fly half a mile, stop them with the glass, and report to the American Bee Journal.

A. NESBIT.

Cynthiana, Ky., Nov. 12, 1870.

AMERICAN BEE JOURNAL.

EDITED AND PUBLISHED BY SAMUEL WAGNER, WASHINGTON, D. C.

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[Translated from the Bienenzeitung, for the American Bee Journal.]

On the Variations of Weight in a Colony.

So long as several factors or elements in any problem operate concurrently, their separate values never having been investigated and ascertained, we are not in a condition to estimate properly, or accurately assign their several contributions to the general result. We can only take the latter into consideration in any process having reference to the particular elements or factors; and if in such case, the inferences thence deduced do not involve any obvious contradiction, we may regard the process as proper and legitimate. Hence, the evaporation of moisture from the honey stores in a hive, the departure or absence of bees, and their presence or return, their loss and consequent diminution of the population, and the quantity of nutriment required for the sustenance of the colony, must be regarded as variable factors, which in the course of a day affect the weight of a hive. That the weight of a hive ascertained at different periods of the day, will furnish evidence showing the general effect of these several influences and of the activity or inactivity of the population; but it does not enable us to ascertain the positive loss or gain of honey. For example (to make myself more clearly understood) if a beekeeper, at a time when pasturage is plentiful, weighs his hive at 9 o'clock in the morning, and finds the gross weight to be 33 lbs. 10 oz., and and at 9 o'clock in the evening finds the gross weight to be 39 lbs. 10 oz., he would not hesitate, in accordance with popular views, to assume and assert that his hive had that day gained 6 lbs. of *honey;* and this without intending to indulge a spirit of exaggeration, or with any design to palm off on the ignorant as truth an unquestionable error.

According to my observations, when I approach my hive, at 6 o'clock in the morning, in favorable weather, thousands of bees have already gone forth to forage, and the hive weighs from five to eight ounces less than it did on the preceding evening; and it continues to decrease in weight, so that by 9 o'clock we shall occasionally find a diminution reaching fully three pounds. Only then does it again begin to grow heavier, showing that the returning workers, with their gathered stores, are gradually overbalancing the still issuing multitude. At about noon the three pounds apparent loss noted in the morning are again made up; and thence forward, on a fine day, the hive steadily increases in weight from hour to hour, till it reaches its maximum at about 3 o'clock, P. M; for though the outgoing throng, though greatly diminished, still continues its movement, the weight of the hive varies only slightly. Unremitted observations enable me to fix the weight and name the hour with much precision.

At about 7 o'clock in the evening perfect quiet ensues, and the weight of the hive now ascertained, compared with what it was found to be at the same hour the preceding evening, shows how much it varied after the lapse of a day, and now only can we come to the conclusion that the increase, if any, is to be credited exclusively to the honey meantime gathered—the other previously enumerated factors affecting the weight having meantime really served to diminish it.

This relative result (since we may regard the scantily introduced pollen—probably as 1 to 10 in proportion to the honey—need not here be taken in account) is the true value which must serve as the basis of our calculations when the pure gain of honey is to be ascertained. And here let me say that 3½ lbs. is the greatest increase which my very populous colony gave me, in any one day in the last two years.

If then, proceeding from this standpoint, we would present our observations figuratively, we should be struck by the remarkable uniformity which the line representing the measurements obvious with reference to time and weight both in the general term and, when closely considered, in detail also. So, for example, how in summer, the decrease is rapid from the opening season till towards the middle of July, and thence forward maintains an equilibrium. And, still more how, after the blooming of heather to the 15th of September, the weight diminishes at first rapidly then scarce perceptibly; so that in both years, of the diminution of five pounds in weight in the course of the entire months, four pounds were lost in the first half of the period, whilst the loss of the remaining pound occurred in the second half of the period. One might suppose that some temperance society had here brought its just apprehensions into play, and that after wasting hilariously their stores in riotous living

Entered according to Act of Congress, in the year 1870, by Samuel Wagnor, in the office of the Librarian of Congress, at Washington.

on first observing their well furnished garners, the population had come to sober second thought and grown suddenly abstemious, for singularly enough from the 15th of September to the first cleansing flight about the middle of February—or during nearly five full months—scarcely four pounds more were consumed.

The BEE YEAR, in this country, might accordingly be sub-divided into four periods, which, though varying much in duration, would still be sharply enough defined by the increase and the decrease in the weight of the hives.

The *first* period begins when spring has fairly opened and its genial influence is apparent on trees and plants, towards the end of April in this climate, and beginning of May, and continues till the first days in June—lasting about four weeks. It supplies the bees with the golden tinted nectar, which, especially where locusts and lindens abound, rejoices the eye and the palate. This might therefore be appropriately called the vernal vintage, for even in quantity it does not fall short of the autumnal gatherings. In 1867, commencing with the 11th of May, it amounted to 21 lbs. in the hive then subjected to our observation; and in 1868, it reached 24 lbs. 12 oz.

Between the 4th and the 8th of June commences the *second* period, during which, notwithstanding the large supplies of pollen carried in for the nourishment of the brood, the diminution of weight is strikingly great. This period continues till heather comes into bloom, or about nine weeks, and reduced the weight of my hive 9 lbs. 1867; and in 1868, when the population had greatly increased, without producing a swarm, the falling off was 12 lbs. 9 oz.

The *third* period, which includes the blooming heather, is much the shortest, lasting scarcely three weeks. It begins, with us, after the first week in August, and closes before the end of that month. It yielded last year an increase of 24 lbs. 14 oz. and was considered pretty fair. This year the increase was only 19 lbs. and must be ranked in the medium class.

The *fourth* the longest—continues from the beginning of September to the end of April, or thirty-five weeks. In this period, last winter, my hive lost 14 lbs. 14 oz.; and as the diminution continues in the same line to the present day, and there seems to be no reason for expecting any deviation, unless the weather produces a change, the conclusion will be allowable that the consumption of honey will not this season exceed that of the preceding year. Should this prove to be the case, we shall be justified in noting the decrease as well as the increase of the weight of the hive in figures, which might serve the intelligent beekeeper as a guide, showing of how much honey he may deprive his stocks in autumn; and, on the other hand, whether and when it behooves him to feed his bees, if he would guard them from want.

In the *subjoined* table, the beekeeper will find, as the result of carefully conducted observations, a statement which, attentively scanned and carefully heeded, may serve as a useful directory in the management of his colonies.

Tabular Statement showing the Variations in the Weight of a Hive.

TIME.						WEIGHT.								
		From		To		Decrease.				Increase.				REMARKS.
						Each sub division.		Total.		Each sub division.		Total.		
Period.	Year.	Days.	Month.	Days.	Month.	Lbs	Oz.	Lbs	Oz.	Lbs	Oz.	Lbs	Oz	
I. 28 days.	1867.	11	May	31	May	......	......	......	......	17	15	......	......	Spring pas-
		1	June	8	June	......	......	......	......	2	14	21	13	turage.
II. 63 days		9	June	30	June	5	09							
		1	July	31	July	3	08	9	01					
		1	August	10	August									
III. 19 days.		11	August	29	August	......	......	......	......	......	......	26	14	Heatherbloom
IV. 245 days		30	August	30	September	4	15							
		1	October	31	October	......	10							
		1	November	30	December	1	05							
	1868.	1	January	31	January	......	12							
		1	February	23	February	......	15	......	......	......	......	......	......	Cleansing
		24	February	29	February	1	14							flight.
		1	March	29	April	4	07	14	18					
		In	the year 1867-68	......	......	......	......	23	15			47	13	
I. 36 days	1868.	30	April	31	May	......	......	......	......	20	05			
		1	June	5	June	......	......	......	......	4	07	24	12	Spring pas-
II. 63 days.		6	June	30	June	8	01							turage.
		1	July	31	July	4	08							
		1	August	7	August	......	01	12	10					
III. 16 days.		8	August	25	August	......	......	......	......	......	......	19	13	Heatherbloom
IV. 35 days.		26	August	30	September	5								
		1	October	31	October	......	121	5	12					

If now, as we must presume was the case, where rational bee culture is practised, the bee-keeper weighed his stocks when he prepared them for wintering, he may, with this table in hand, after deducting tare and the approximate weight of bees, be able to judge very nearly how much honey each colony contains at any particular period. He may see from it, after having deprived a colony in May of its more valuable honey, how much food he must supply from his reserved heather or buckwheat honey, or other adequate substitute. He will also learn from it, much that he has hitherto been unacquainted with; and I shall be amply compensated for my labor in preparing it, if I find that it has been serviceable to any who have not had similar opportunities for making observations.

GORIZZUTI.

* * *

[For the American Bee Journal.]

Artificial Honey Comb.

Not a word has been said in the Bee Journal, for some time past, about artificial combs, yet the subject has continued greatly to exercise the minds of thoughtful bee-keepers, and not without certain results. Two different kinds of manufactured comb made their appearance during the past summer. One made of paper saturated with wax, of full depth of cells—a beautiful article to look at, and so like real honey comb as to deceive almost any bee-keeper at the first glance, even when taken into his own hands. The bees, however, were not so easily deceived. They saw through the cheat at a glance, and "would have none of it." At least this was true in three cases to my knowledge. In one case they "cut it into sawdust." In another, it was cut down to the foundation, and the cells rebuilt with wax. And in the third case it disappeared *in toto* from a space three inches square, where a piece had been fastened in with great care, in a frame of brood comb; and the bees had began to fill the space with their own waxen cells. These three cases seem to demonstrate that this kind of artificial comb is not a success.

The other kind, devised by Mr. Quinby, made of metal, with full depth of cells, certainly cannot be cut into sawdust. Whether bees can be wintered in such combs, is an important question, which can only be determined by experience. I would think the conducting power of metal so great as to make it impossible for bees to live in a hive full of such comb. If mistaken in this conjecture so much the better.

I thought and still think, I have in mind an imaginary machine that will make perfect honey comb from wax; but it would be expensive to build, and I have no time and but little disposition to attend to it. Besides, I have lately found that it would conflict with a patent issued some years ago to Mr. Wagner, editor of the Journal, for a process for making artificial comb of wax, gutta percha, or various other materials, or metals reduced to a proper degree of thinness. I have read the patent, and find it very broad in its specifications and claims, and covering, it seems to me, pretty nearly the whole business of artificial comb making. On a recent visit, Mr. Wagner showed me the plates, dies and press for making his artificial combs, or rather comb foundations, as he used them at the time his patent was issued. That the whole apparatus was in working order was proved by our actually making twenty or thirty sheets of comb foundations in a very short time, although we had to stop and admire the beauty and perfection of almost every sheet as it came from the press. It is just *fun* to make them. Besides it is *certain* that the bees will use them. Two combs were shown to me, built by bees in a weak nucleus after queen raising was over, at a time when certainly no new comb would have been built without some such inducement. To say that I was delighted, is to put it in a mild form. I am determined to have one of those machines, cost what it may. I had grown to be pretty well satisfied with the combs in my forty-five hives as the bees have built them, with my assistance in trimming and straightening them—no small task! But I am satisfied no longer. They contain to much drone comb, and (I am obliged to confess it) in a *few* of the hives, there are a *few* frames that I don't trouble much, the combs *look so ugly* down between the frames.—On one point I am determined. I am going to have straight combs, and worker combs, except perhaps a part of one comb in each hive, and I can do this by using one of Mr. Wagner's machines, and at the same time gratify the natural disposition of the bees to build combs. Mr. Wagner says he is satisfied that a swarm of bees will do better on such comb foundations, than they will in a hive of full combs or combs with full depth cells, for, after swarming, bees have a strong inclination to produce wax to build comb, even if wax be not a spontaneous or involuntary product of bees at such a time. The experience of several bee-keepers, related at the North-eastern Beekeepers' Convention, held at Utica, New York last October, seems to confirm such an opinion. There will be other advantages in the use of these combs. They *cannot* break down by heat, or crack by cold; nor can they be broken by the honey extractor—three ways in which I have been considerably annoyed. Moreover, Mr. Wagner has devised a very simple and efficient method of fastening these sheets of comb foundaations accurately into frames, so complete that he intends to take out a patent for it. No handling of a comb, no amount of ordinary jolting over even a rough road could possibly detach or break a comb from its frame, when fastened by means of this device; and the whole arrangement secures straight combs beyond a peradventure. It seems to leave nothing to be desired in this direction. I think the strength alone of combs built on such foundations, is a sufficient cause, if they had no other good quality, to justify me in gradually destroying every frame of comb I possess, and replacing it with Mr. Wagner's artificial comb foundations. They are worm-proof, too, as completely as any comb can be; but this is of small account. Worms never disturb strong swarms.

The best part of the story remains to be told. Mr. Wagner has determined, after this long delay of nine years, to put his patent before the bee-keeping public. He will have some machines made complete in every particular, embracing some recent modifications and improvements, ready for sale next spring, together with territory for exclusive use of the same. The machines will not be high in price, or beyond the reach of any bee-keeper who has twenty or more colonies of bees, and the materials for a set of ten or a dozen combs will not cost much—in fact, I don't *dare* to say how little. You will be satisfied on that score.

Gentlemen, I think we are about to take another long step forward in bee culture.

R. BICKFORD.

Seneca Falls, N. Y. Nov. 23, 1870.

* * *

[For the American Bee Journal.]

The Hive Controversy.

MR. EDITOR:—In the November number of the Journal, Mr. C. Rogers again tries his hand in the "patching" business, making an effort to "patch" up the theory advanced in his former article (in the July number). According to my experience in the bee business and the use of the Langstroth hive, his "patch" work does not fit the facts. Let us see. In the first place, he says—"For wintering in a cellar the Langstroth hive is perhaps good enough." Well, if it is, why fall out with it in early spring, for the bees dying off so rapidly? The shape of the hive has nothing to do with that. Again, he says—"But if a swarm is not breeding enough to make up the loss in early spring, there must be a fault somewhere." Well, suppose there is "a fault somewhere," why did you not point it out and tell us where it is, instead of telling us what "we expect," &c. If the Langstroth hive is good enough "for wintering in a cellar," it comes out with the same advantages as other hives; and Mr. R. has failed to show wherein it is in fault for the bees dying off "in early spring." Again, he says—"When we take bees from the cellar, we expect that they will have brood in all stages." Well, suppose they have, does that prevent the old bees from dying off with old age, or from being blown down and chilled to death with the bleak winds of early spring?—Again, he says—"We expect too that the queen will continue to deposit eggs even more rapidly, because of the excitement produced by the bees flying." That idea, I presume, is peculiar to Mr. R.; at least it is the first time I ever heard that bees flying stimulate the queen to deposit eggs more rapidly. I have known bees to "fly" quite freely when they were on the point of starvation, yet the queen refused to deposit any eggs at all. It is when bees are gathering stores rapidly, that the queen is stimulated to deposit eggs rapidly. But suppose, Mr. R., that the bees "flying" and your "rye meal" did excite the queen to deposit eggs more rapidly, what good would the eggs do when there was not bees enough in the hive to keep them at the hatching temperature? You admit, yourself, that the bees die off very rapidly the first day or two (that they fly), after being taken from the cellar. Why should you expect the bees to be increasing, so soon after suffering such heavy losses? Again, "In deeper hives they do increase, and the deeper the hive the greater the increase." Here is some more of Mr. R.'s peculiar logic. According to that, all we would have to do, is to increase the depth of our hives to have all the bees we desired. One hive would be all that an operator would want. When more bees were wanted we need only increase the depth of the hive, and the bees would soon be on hand. Now suppose we have a hive five or six feet high, would the bees go to the top of the hive to commence rearing brood, &c., or would the queen commence to deposit her eggs at the lower end of the capped honey? And then where would your heat or warmth go? It does appear to me that a hive could be made too "deep." Again, Mr. R. says—"The reason why the shallow hive is not good for early spring, as I understand, is this: as soon as the severe weather is past, we want to confine the animal heat as much as possible, &c. Consequently we shut off all upward ventilation. The coldest part of a hive is near the entrance," &c. Well, suppose it is, what does that prove? I used to hear it said, when I was a boy, in order to have a warm house you must have the ceiling low, or, in other words, a low story. Now suppose your tall hive has the same number of cubic inches that the shallow form has, differing only in shape, what becomes of the same amount of animal heat in the shallow form? Is it not still confined to the hive, and when it rises to the top does it not diffuse itself and warm up just as much surface as it would in a hive ten feet high? Remember, if your bees have any stores (in the tall hive) they are at the top, and the first eggs deposited by the queen will be at the lower part of the capped honey or stores, and the animal heat rises to the top or ceiling of the hive, some distance above the cluster of bees. Then where is the advantage of your tall hive? Again, he says—"The further the bees get from the bottom the warmer they find the temperature," Suppose that is so, what does it prove? Did you ever know bees (in cold weather) cluster high up in their hive among the capped honey? Bees always put their capped honey (in your tall hives) at the top of the hive, and cluster in cold weather at the lower part of the capped honey. No amount of cold air coming in at the entrance, can force them to cluster high up between sheets of sealed honey. But the animal heat generated by the bees does rise to the top of the hive, and the longer the sheets of capped are, the further the bees are from the heat generated by them. Again, Mr. R. says—"These hives being so low, before the bees get out of the way of the cold air coming in at the entrance, they are bumping their heads against the top." Well suppose they do "bump their heads against the top," what does that prove? The heat generated by them certainly cannot get higher than the top, and the bees being there too, they are certainly in the warmest part of the hive. Again, he says—"In a tall hive they can draw up and get well out of the way of the cold air from the entrance." Not quite so, Mr. R.; if they have any stores above them, they do not advance up. Did you ever know bees in your tall hives to commence rearing brood at the top of the hive? If so, where were their stores? Again, he remarks—"Instead of spreading the brood in a circle, they are obliged to carry it along horizontally, and after all work to a disadvantage." Please prove your assertions, Mr. R. I have examined a great many stocks (in the shallow form of hive) in early spring, when first taken from the cellar, and always found what brood they had, to be in a circle—the largest circle being in the centre. On the next card the circle would be a little smaller, and so on; but never did I see their brood placed horizontally in one card of comb, And as for their working to a disadvantage in the shallow form of hive, we should need some better proof than Mr. R.s' naked assertion. Mr. R. now hits Mr. Alley a slap across the nuckles for recasting some of his former views as to the shallow form of hive. As there might be some inducement for Mr. Alley to change his views as to the best form of hive, I will not attempt to answer for him. The profits of a patent might induce some men to change their views. How that would operate on Mr. Alley I do not pretend to say; but this much I will say, that the Alley hive is no better than the Langstroth two-story glass hive, or his double-story hive. They have the advantage of the outer case. And Mr. Alley's hive is no better for out-door wintering by the frames being reversed. The secret of its wintering well all lies in its outer case. The great objection to the Alley hives is the cost of getting them up. They are a good hive, but they cost too much. If I have to go to that expense, I would get up the double-story Langstroth hive at once. They cost no more and winter fully as well in the open air; and are some better for (pure) surplus honey, as the honey obtained from the Langstroth hive is free from pollen; and the side boxes of the Alley hive opposite the brood, nearly always contain more or less pollen—at least that is my experience. Mr. Rogers winds up by requesting me to explain how the Langstroth hive can be made deeper and still retain about the same number of cubic inches? Well, I will make the attempt, hoping it will prove satisfactory to Mr. R. If I wanted the Langstroth hive deeper, and still the same amount of cubic inches, I would take off one, two, or three of the frames, just as my fancy might suggest, and put the room they occupied at the sides, to the bottom of the hive, dividing the space they occupied equally between the balance of the frames left in the hive. Would you not then have precisely the same room in the hive? (eh!)

B. Puckett.

Winchester, Ind., Nov 23, 1870.

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Honey is the most elaborate of all vegetable productions.

◆

Bees assist in the fertilization of flowers, by disturbing their filaments, and causing the distribution of pollen.

[For the American Bee Journal.]

The Thomas Hive.

Mr. Editor:—In the November number of the Bee Journal, current volume, there appears under the above heading, an article from the pen of George Cork, of Bloomfield, Ontario, in which he speaks disparagingly of the Thomas hive, and makes a feeble attempt to disprove the statements made in the Journal in its favor. Justice to myself and to many bee-keepers in Ontario demands that I should notice it; otherwise I would let it pass as unworthy of notice.

As a correspondence of this kind cannot be very interesting to the readers of the Bee Journal, I will be as brief as possible.

Up to the time of the appearing of the above article I had never seen or heard of such a man as George Cork—have never seen an article on bee-culture over his signature in any paper or journal in Ontario, and I venture to say he is not acquainted with one of every hundred bee-keepers in Ontario, and not one of every hundred ever heard of him. Hence the statement, "I know of no person making bee-keeping a business, who uses the Thomas hive," is not worth the ink it cost to print it, as it is of no weight as evidence that the Thomas hive is not the principal hive in use in Canada. To correct the errors or rather disprove the statements, he refers to three bee-keepers who, *he* says, condemn the Thomas hive. I wonder if Mr. Cork is acquainted with any other bee-keepers? From such statements the readers of the Journal might well infer that there were not more than a score of bee-keepers in Ontario. How insignificant his own words make him appear. Reduced to the form of a syllogism, he stands thus: I know of *three* bee-keepers who condemn the Thomas hive; *I* know of no person making bee-keeping a business, who uses the Thomas hive; *ergo*, the Thomas hive is not the principal hive in use in Ontario! Now for a few facts and figures that will enable the readers of the Journal to see the feebleness of the attempt to disprove the statements made in all candor, by those who know whereof they affirm. By reference to my books it can be seen that I have placed nearly six thousand (6,000) copies of my Canadian Bee-keepers' Guide in the hands of bee-keepers in Ontario; I have been and am in communication with something over five thousand (5,000) bee-keepers, a large number of whom have purchased my hive and are now using it, and among them the most noted and successful bee-keepers in Ontario. Some have ordered as many as forty (40) hives at one time for their own use; and as many as one thousand hives have been required for one season's demand. True, some who have used it do not like it, but they are few indeed, and in most cases simply because they were not well enough acquainted with bee-culture to appreciate its advantages. On the other hand, I have scores of letters giving the Thomas hive the highest possible praise, and saying the writers will use no other. The hive has taken the first prize at the Ontario Provincial Fair for the last seven years, competing at times against six and seven other patterns.

Mr. Cork also gives a statement of his success and the amount of surplus honey taken this season, as proof, I presume, that the hive he uses is superior to the Thomas hive. But instances of better results from the Thomas hive have already appeared in the Journal. I refer to the case of Mr. McLatchie, of New Edinburgh, Ontario, who commenced in the spring with fifty-seven stocks in the Thomas hive, seven of which were very weak. He increased to ninety stocks, and took over 2,500 pounds of surplus honey. Also, Mr. O. Fitz Wilkens, of St. Catherine's, took from one stock in the Thomas hive, 222 pound surplus honey. We hear other similar reports. Will Mr. Cork try again? Mr. Cork says he makes the frames in his hive 8½ inches deep. I suppose the thought has never been begotten in his brain that the Thomas hive may be made shallow: that the depth or number of frames had nothing to do with the advantages claimed for the Thomas hive! Those who prefer shallow hives, construc them shallow; and there are many shallow Thomas hives in use. I prefer a deep hive, and build accordingly.

Mr. Cork closes his article by giving a description of a smoke pipe, and is surprised to see that so many bee-keepers still use a pan of chips, rotten wood, &c. He thinks his smoke pipe, for convenience, cannot be surpassed. Wonderful discovery, Mr. Cork! K. P. Kidder, of Vermont, used a pipe made on the same principle, ten years ago. Mr. Quinby gives a description of a similar pipe in his work published in 1864. I have made and sold a pipe on the same principle (not costing more than one-half of what Mr. Cork's pipe will cost) for the last seven years. Yet I dare say they are not as convenient as a pan of chips or a piece of rotten wood lighted at one end and held in the hand when required. And if Mr. Cork, or any other man, will visit my apiary the coming spring, I will convince him of the fact in one hour's operations among the bees.

J. H. Thomas.

Brooklin, Ontario.

[For the American Bee Journal.]

The Hive Question.

Under the above head, Mr. Thaddeus Smith gives us a lengthy article in the Bee Journal for November, page 103. As he very particularly refers to my hive, I may be allowed to make a few remarks. He says, "the frames are so large that, in very hot weather, where the hive is exposed to the sun and the combs are full of honey, they break down and fall out of the frames,"

I have used these hives for the last seven years, and the stocks in my apiary have numbered from twenty-five to one hundred. I have opened hives and removed frames under all circumstances, and almost daily for weeks, and during all this time, I have not had half a dozen combs in frames melt down or break down. Mr. S. admits that the "melting down of combs might be prevented by shading the hives," but adds, "the best hive in America ought not to require this." Such a statement shows want of knowledge in the science. The frames in my hive contain about 13½ by 14 inches comb capacity. Now, more than two-thirds of the ordinary box hives throughout this country contain larger combs; yet the number of combs that melt down are very few, and in most cases where they do melt down, the hives are exposed to the sun.

Again, he says, "no hive should claim perfection without being easily provided with extra frames for surplus honey to be used in the honey extractor." I would inform Mr. Smith that just as many frames can be added to my hive as to any other, and just as easily. Some construct my hive with nine frames and some with ten. The number of frames has nothing to do with the advantages claimed for my hive. As for two-story hives, Mr. Smith speaks as if it were a settled fact that frames in an upper story were necessary to a good hive, and necessary for the purpose of taking surplus honey with the extractor, and adds, "no hive should lay claims to being the most perfect hive, without being adapted to such an arrangement." Mr. Smith has an undoubted right to enjoy his own opinions; but with long experience and careful observation, I have finally rejected two-story hives, for any purpose whatever. Others may like them; I do not. This season 142 lbs. of honey were taken from a stock in one of my hives with the honey extractor, and the hive contained only eight frames. The same stock stored eighty pounds in surplus boxes. When Mr. Smith will beat that with his two-story hive, we will add two more frames to the body of our hive, and try him again, certain of success.

Relative to the experiment in wintering, I do not think it at all satisfactory. If it be a fact that bees will winter outdoors in a shallow hive, better than in a tall one, it is time that bee-keepers knew it. Before making many remarks relative to the experiment, I would ask Mr. Smith how the hives were ventilated. Were both the tall hives and the shallow ones ventilated *exactly* alike? If not, state the difference. One stock was lost in the shallow hive—carelessness on the part of Mr. S. There was a large number of dead bees in some of the tall hives, was this carelessness too? Or was it a fact that they contained far more old bees than the other hives? Why should tall hives mould more than shallow ones? How is it that Mr. Smith says, "I have no hives patented or unpatented," while the next paragraph commences with, "I have made a hive on the plan of Mr. Gallup and Mr. Truesdell, which I believe possesses more advantages, and is capable of being used more ways than any hive I have seen described?" A very modest way of saying the best hive made. How is it that Mr. S. has made his hive a tall hive—frames 14 inches deep—if tall hives do not winter as well, do not increase in brood as fast; and do not swarm as early as shallow ones? How is it that he says, "I have given greater depth, &c., because I wanted to winter out of doors," when his experiment shows that the shallow hives wintered best. It savors strongly of a thrust at the Thomas hive without good grounds for doing so; but thrust away, you can't hurt it.

Brooklin, Ontario. J. H. THOMAS.

[For the American Bee Journal.]

Bees at Bremer County (Iowa), Fair Grounds.

Gallup in a Fix!

On the morning of September 20th, Gallup reported himself at my home in Waverly, as per agreement; and after a late breakfast, the remainder of the forenoon was spent in looking over my bees and showing him the queens in my nucleus hives, &c. After dinner we took a drive to the Bremer county fair grounds and made a few entries with the Secretary of a stand of bees, box honey, extracted honey, a Peabody Honey Extractor and several other things. (I will here say that I expected to have one of M. M. Baldridge's Geared Extractors on exhibition, but it did not make its appearance.) After looking after the stock that was fast coming in, we took a drive in the country, as I was anxious to show Gallup the finest country to be found in our beautiful State of Iowa, that lies in the vicinity of Waverly.

In our ride we came in contact with a drove of cattle, and among them was a beautiful cow with a calf a few days old. I was in want of a fresh milch cow, and on Gallup's judgment I bought this one for forty dollars. I will here thank him for his good judgment in this case, as the cow is a No. 1, and my neighbors call her the Italian cow, I suppose from her very yellow hide or her nearness to my bees.

We soon found ourselves at the post office, and when the mail came in, which was about 4 o'clock P. M., I received ten Italian queens from Adam Grimm, of Jefferson, Wisconsin. We drummed out three black queens that evening and introduced Italians, Gallup style, with tobacco smoke, all in less than an hour's time. I introduced several queens last summer with tobacco smoke, some successfully and some unsuccessfully. The first attempt was made in last July, when I put one in for a little pill doctor. I gave them a big dose, thinking he could cure them if I gave them too much smoke; but some of them, never came to, as he informed me they died of congestion of the brain! But he soon had a fine stock of three banded Italians.

Next morning I closed up a stand of my Italians, to take to the fair, placing them on a spring wagon, with Gallup and myself aboard. When we arrived at the grounds, about three fourths of a mile distant, we placed the hive on a box at the same place where I had a stand opened last year, exhibiting the queen at least a hundred times and no harm done.

I left Gallup to open the entrance of the hive and let the bees out whenever he pleased, and wended my way to the Floral Hall with my honey and other traps. I had hardly reached the Hall when I perceived such a confusion among the teams breaking away, with everybody running and calling for help. I was not long in getting back to my beehive, and the bees were just boiling out. Phew! but were not they mad, pitching into everything within twenty rods of the stand, except the pens of Chester white pigs, and Berkshire and China hogs. I suppose they thought there was plenty of war on the Rhine, and passed them by.

They seemed to have a particular spite at a little short-tailed dog and nearly covered him. The little fussy fellow not having faith enough to roll in the grass and weeds to rid himself of his tormentors, rushed madly in among a crowd of ladies, and such "cutting up" as followed, I never saw before. I could think of nothing like it but driving sheep, when I was a boy in my native town among the beautiful hills and mountains surrounding Danville and St. Johnsbury in Vermont, when the little dogs would come out and scatter the sheep, till they learned how to jump over stone walls and almost climb trees.

I soon found it was no place for me, as the excited folks were loudly taking my name in vain, as well as vociferously blessing my bees. I retreated in good order to Floral Hall, and got behind a 200 lb. squash, which I used as breast work. I had been there only a few minutes before our Mayor (one of the officials, by the way of our Bremer county fair) came and informed me that I must remove those bees, as they would spoil the fair, keeping up the while a brisk fist fight with a bevy of bees that were trying to close up his eyes; all the other good citizens present at the interview keeping his worship in countenance by perpetrating similar military gesticulations and fandagoes, to save their own peepers from temporary occultation. But a fat woman who happened to be present, noted for her good sense as well as lustiness, advised him to get down on the ground in the grass, and the bees would leave him. He, however, having his attention pretty much engrossed at that moment, misunderstood her and supposed she meant he should get down to his best running time. So he started off on the race course and made good time, as his heels showed. Meanwhile a large white bull with harness on, had more bees on his back than he had nerve to stand, and seeing our small Mayor, of some 300 lbs. weight, making such remarkably good time on the race course, broke loose and took the track also, shortening the distance so exceedingly at every jump between him and the Mayor, that in a few minutes bets ran two to one on the white bull. But suddenly he stopped, pawed sand and threw it on his back, before he resumed his onward course, and thus the Mayor made the home stretch $\frac{3}{4}$ths of a second ahead of the white bull.

But I must not forget our marshal, who was gate keeper in this interesting occasion. He is a brave fellow, and served his country faithfully four years in the 2d Wisconsin Regiment, and was present at the capture of Jeff. Davis. He retreated in good order half a mile from his post, and kept up a manful fight all the way.

Some dozens of operators, too, busily testing the merits of various machines and ingenious contrivances, each warmly contending that his was the best, suddenly brought their discussions and controversies to a close, by unanimously deserting their several machines to engage in single combat with Swett's "tormenting bees."

All this time you should have seen Gallup, walking to and fro demurely in front of the uproarious stand of bees, having all the room he wanted, with about a thousand gallant warriors swarming around his reverend head. He looked very much pleased when the officials and others called to him to "close up those bees." "Come and close them up yourselves," was his calm reply; but they hadn't the least notion of trying their hands at so ticklish a business, and kept at a respectful distance, dodging their assailants as adroitly as they could. However, when the time came Gallup closed them up, set them in a wagon and we took them to their home stand. It was a colony I had opened many times last summer, and had shown them to Gallup the day before, and when we got through he remarked that he had not seen the first bee that acted as if it wanted to sting: I asked him what he thought was the cause of their cutting up so, as I was not aware before that I had any such bellicose stocks on the premises. He replied he did not know, but suspected there was a little black blood in them. I suspect there may be some of the *four banded* blood in them, that we have been reading about in the American Bee Journal. (By the way, we readers of the Journal much enjoyed the fun, reading how Novice had to pay five dollars for a few undesirable black bees, that he might get back his half-bushel of Italians that had gone astray. He must have felt good when he got the hive on his back and was homeward bound, little anticipating that it was destined to be burnt up.)

I wish we bee-keepers could have Gallup's photograph as he was promenading around that hive. Everybody thought he was in a fix and would be stung to death; but I am pleased to say that he, as well as myself, did not receive a single sting. The whole occurrence was over in about ten minutes. Then everybody thought they never had as much fun in so short a time in their lives, and the Fair would have been a failure if it had not been for Swett's bees. The next day it rained, and Gallup left for home, leaving hosts of friends who hope to meet him again.

I think if my hive had been set in a lumber wagon, when taken to the fair, and well jolted, the bees would have filled themselves with honey; and have been quiet and peaceable when opened on their arrival. There was not jarring enough for them in the spring wagon. I shall never forget how one poor old lady came to me with both eyes closed up and claims for many other damages which my bees had done to her. I promised to give her a plate of honey and that I would never take bees to a fair again without first pulling out their stings and putting diapers on them.

This was a very good year for bees. They gathered honey largely from basswood blossoms as well as white clover. Some of my young swarms haven given me one hundred (100) pounds of surplus honey. I will let Gallup speak for himself about my two-story hives. He thought them a great improvement on the old Langstroth hive.

I must not forget to tell you of the very pleasant visit I made on the morning of August 31, to J. M. Marvin & Bros, while on my way to Chicago. I left the six o'clock morning train at Geneva and started for St. Charles, two miles up the Fox river. And, oh, what a pleasant drive. The street contains some of the finest residences, gardens, and grounds to be seen anywhere; and at that time in the morning, as the sun was coming up in all his beauty, one must enjoy it, especially after trying all night in vain to sleep, though it was in one of those fine sleeping cars. As I drove into the town all was yet still as midnight but I encountered a man who was making his way to the meat market, of whom I inquired for J. M. Marvin. "Is he the bee-man?" was the inquiry in return: I replied, yes. "Then," said he, "there he is, over yonder in the yard, with his coat off."

I soon had him by the hand, told him who I was and where I came from, and that I must make the 8 o'clock train for Chicago, so that we must talk fast, and at it we went. He showed me his brick house covered with hay and straw, wherein he winters some hundred stands of bees very successfully. We then went into a room, where he runs his extractor with gearing. He went on uncapping and I throwing out the honey. Give me a crank geared Extractor every time. We were informed here that breakfast was ready, and I will only say that I took a square meal—the first in two days.

I was somewhat disappointed in the looks of J. M. Marvin, as I expected to see a man of at least sixty years of age. Reading as I have so many pieces from his pen and admiring them for their good sense and judgment, I supposed he must have an old head on his shoulders. But to my surprise, I found him about my own age, of some thirty-five summers and unmarried. He opened a few hives to show me some beautiful Italian queens of his own raising.

My watch told me it was time I was on my way to the depot, when M. M. Baldridge, Secretary of the National Bee Hive Company, made his appearance. He too is a young man, whom I wanted to see, as he has made his mark among the bee fraternity. With great pleasure to me, he took a seat with me, and we drove to the depot in time for the train. The remembrance of my visit to St. Charles will always afford me great pleasure, and I hope to meet with those gentlemen again when I have more time to spend with them.

Mr. Marvin intended to start next week to the Mississippi river with 100 stocks of bees, that they might gather their winter stores, as the season has been a very poor one with them at home, the white clover having been parched up, and of basswood they have none. I hope to hear through the American Bee Journal how Mr. Marvin succeeded with his bees on the Mississippi river, about 100 miles from home.

I see we are to have a State Bee-keeper's Convention December 15. I am glad to see that; think it is a step in the right direction, and I often feel like stumping Gallup to go with me.

H. K. SWETT.

Waverly, Iowa, Nov. 23, 1870.

[For the American Bee Journal.]

Report from Bethlehem, Iowa.

Mr. Editor:—I see that neighbor Gallup, and others, have had an extraordinary yield of honey. It does seem strange that a few miles' distance should make so vast a difference in the amount of surplus. Last year Gallup got scarcely any surplus, whilst I, not over eighty miles south, got in one instance 166 lbs. and one swarm; and several of my colonies went over 100 lbs., besides doubling my stock.

This year opened with equally bright prospects. I came through with twenty-six very strong colonies, out of twenty-nine—one colony having lost its queen, and two *weakly* ones played out. The weather was fine in March, and the bees carried in quite a lot of ground oats. April was cold, killing all fruit blossoms. Plums, crab-apples, &c., came into bloom, but it dropped off in a short time. Bees worked very little, scarcely getting their daily rations. I kept on equalizing, and gave what honey I had in frames, left over from last season. I fed about three dollars' worth of sugar. Linden trees did not give over an average crop, or about ten pounds to the hive. We got three rains from April to the middle of August. On the 16th of August the bees commenced working between showers. I was then very busy harvesting, and did not give them proper attention, concluding they would use up a considerable part of the honey they were gathering, in feeding their brood. In the first week in September, I examined them, and found every cell full, with but little brood. I put the honey machine to work, getting out about forty gallons of nice honey. The bees seemed to work all the better for this operation. It certainly looked rather late in the season to be taking honey from the body of the hive; but visions of depopulated hives stared me in the face. The only chance I could see, was to empty a portion of the cells, so that the queens could replenish, and multiply young bees. And, Mr. Editor, they have done it to perfection—plenty of bees, and honey enough to winter on.

I built up and stimulated three stands in American hives, with small frames on top. Their yield was ninety pounds comb honey. I did not take any liquid honey from them.

The produce of my apiary this season is forty gallons of machine honey, one hundred and twenty pounds of box and small frame honey, and a dozen strong hives full, say fifty pounds. Total 610 lbs. and three swarms divided—the result of keeping stocks strong and ready for the harvest when it comes.

F. Crathorne.

Bethlehem, Iowa, Dec., 1870.

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A man may use the common swarming hives a whole life-time, and yet remain ignorant of the very first principles in the physiology of the bee, unless he gains his information from other sources.

[For the American Bee Journal.]

Report from Jeddo, Michigan.

Mr. Editor:—The past summer, in this locality, has not been a very good one for apiculture. My bees commenced carrying in pollen on the 15th of April, and the honey season opened with abundance in all varieties of blossoms, so that by the first week in June, almost every vacant cell was filled. I put in my surplus frames and boxes, which they filled very rapidly.

About the last of June we were visited by frequent heavy showers, which seemed to wash all the honey out of the plants, so that strong colonies, after the first of July, did not gather much more than they consumed.

A great many colonies of bees were lost during last winter. Novices in the business lost, in many cases, all they had; while the more skilful lost from fifty to sixty per cent. The summer previous was one of the wettest we have had here for many years, and the honey stored seemed to be very thin and of poor quality, fermenting in the combs in very many cases. Nearly all the bees that were lost, died of dysentery, no doubt induced by the fermented honey.

I commenced last spring with four stocks, which gave me three hundred and fifty (350) pounds of honey, and six swarms. Having no mel-extractor, I improvised one, which works like a charm. By a few improvements which I intend to put upon it next season, I think it will excel any that I have seen, in simplicity, durability, and ease of working. It cost me only seven dollars.

Mr. George Smith, who lives three miles north of my place, has an apiary of about one hundred (100) colonies, principally Italians. He extracted from seven hives, with the honey-slinger, twelve hundred (1200) pounds of honey. This, Mr. Editor, you may think looks a little like boasting, and although it is undoubtedly quite a large yield, I think it is a true and correct statement, as Mr. Smith is a very reliable man.

We find the "*American Bee Journal*" an indispensable aid and guide in all matters pertaining to apiculture; and during the nine months I have taken it, I have been benefited many times the price of it. I only wish that it came twice as often as it does.

George Todd.

Jeddo, Mich., Dec. 10, 1870.

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[For the American Bee Journal.]

The Honey Season in Hancock Co., West Virginia.

Mr. Editor:—I have delayed writing to you for some time, on account of a visit west to Iowa and Illinois. I took the typhoid fever out there, came home sick, and have not got out of the house yet. I left on the 5th of September, and was gone five weeks.

Being absent part of the season, I cannot give you an accurate account of my whole apiary, but I will give you a statement of one hive, wintered in a foot square of comb, transferred to a new hive about the 10th of April, and which had not, at that time, more than five pounds of honey in store, and still less when examined again a few days afterward. All my other colonies were in about the same condition—weak in stores, on account of two bad seasons in succession, which we very seldom have in this country.

Hive No. 1 gave me, in box and frame honey, 152⅓ pounds; which at 30 cents per pound is....................................	$45 75
One artificial swarm, worth, exclusive of hive	11 00
Swarm yielded 36 pounds box honey, at 30 cents..	10 80

Whole amount of profit from one hive..$67 55

Hive No. 1 contains yet thirty-five (35) pounds of honey, besides the weight of hive, comb and bees, of which I could take ten pounds, leaving them twenty five pounds to winter on.

The hive containing the young swarm weighs eighty (80) pounds. Allowing thirty (30) pounds for weight of empty hive, and ten (10) pounds for weight of bees, pollen and combs, there will remain forty (40) pounds net of honey; so that I might have taken fifteen pounds of their honey and still left them an ample supply to winter on. But after reading H. Alley's report (Vol. VI., No. 5, page 111, Nov., 1870), I thought that if I put it all in my statement, some of our young bee-keepers would perhaps hardly believe it.

My apiary now contains seventy-four (74) colonies, besides five stocks, made up of nucleus hives—five or six put together in a large hive, to winter jointly, and be separated again in the spring, for nuclei, to raise early queens, which are almost always the best. In the spring, when examining the condition of my colonies, to see whether they need honey, or a comb or two of brood, I cut out all the drone comb out of every hive and insert worker comb in its place. Thus I get clear of all early drones, except in such colonies as I may select to breed from. By doing this, and having some good imported queen to get my brood from, I hardly ever fail to get number one queens, of which my apiary is now mostly made up. I must procure another imported queen next spring, to keep up a regular crossing of my stock; as I do not intend that any apiary shall excel mine in bees, hives or condition of colonies, so far as my experience will go.

I have been making artificial swarms these thirty-five years, or more, by the shape of hive, before the movable comb frame was introduced. I have Italianized nearly all the colonies in my neighborhood that are in reach of me, so that I think I have just as good a chance to raise pure queens as any one else.

There are a great many bees in our county; but mostly the common black bee. Many bee-keepers took a decided stand against the Italians when I introduced them in this county, calling them a humbug. I guess that, by this time, they would all like very well to be *bee*-humbugged themselves, since the saw the honey I obtained last summer.

ALFRED CHAPMAN.

New Cumberland, West Va. Nov. 28, 1870.

[For the American Bee Journal.]

Report from a Wisconsin Apiary.

MR. EDITOR:—I have for some time thought of "reporting progress," but being only a novice in bee-culture, I have hesitated lest, peradventure, I should treat my bees so "scientifically" that I might wake up some morning and find them "*non est*," and hear the quotation—"Let not him that girdeth on his harness boast himself as he that putteth it off." But the year 1870 is drawing to a close, and if I report at all I must do it soon.

At the close of last March I removed my eight (8) stocks from the cellar, and placed them on their summer stands. On examination I found they all had more or less eggs and brood in their cells. I was, however, much surprised to find that some of my best stocks had very little honey, and, in fact, were on the verge of starvation—not one of the number having any considerable amount. The first thing in order, therefore, was to equalize the honey, and the next to feed them with dissolved sugar. Furthermore, I found one stock so reduced in numbers that I did not think proper to risk the loss of eggs and brood by giving them a card from another stock. I therefore reduced the size of their brood chamber, and stimulated their queen by feeding till their numbers warranted the aforesaid introduction. They then did better than could have been expected, till all at once their queen was missing. I gave them a card or two of eggs and brood; in due time they raised a queen, and now they appear all right.

I made seven (7) artificial colonies, and had one natural swarm, which came, too, the morning after I had cut out all the queen cells. In this "fix" all I could do was to strengthen the parent stock with eggs and larvæ, and the young swarm with empty comb.

My bees stored up nine hundred and thirty-two (932) pounds of box honey. On the 1st of October I weighed the colonies, and after making allowance for the weight of the empty hive, and subtracting ten pounds (10 lbs.) as the weight of the bees, bee-bread and combs, I found my lightest hive had thirty-one (31) pounds of honey in it, and my heaviest thirty-nine (39) pounds; and that the average per hive was 37 lbs. 3 oz. Now, as they commenced the season's operations with just next to nothing at all in their hives, they must have stored up some fifteen hundred (1500) pounds of honey, besides what they gathered for their own consumption and use in comb-building, and the nourishment of their brood, so as to double their numbers—a result with which I feel that I ought to be satisfied.

The weather continues fine, with the thermometer at 60 degrees in the sun. Bees remain on their summer stands up to date. D. P. LANE.

Koshponing, Wis., Dec. 9, 1870.

The common but ridiculous practise of making a clatter with kettles, tin pans, coal scuttles, &c., when bees are swarming, is utterly useless, and is resorted to only by old fogy bee-keepers.

[For the American Bee Journal.]

Report from Kleinsburg, Canada.

The honey season, this year, has been with us a very good one ; but on account of having lost more than half of our bees last winter, the honey gathering force was considerably limited and the result in accordance therewith. Yet we lived in hopes to retrieve our losses by special attention to increase our stock as much as season and circumstances would allow, and in such manners and ways as would enable us to retain the increase, and not have to undo it again, or run the risk of finding myself *minus* of bees in the spring, as was my former experience—the cause having been as I reported in the July number, feeding too late in the fall. I had recourse again this season to feeding for winter, in the case of some stocks which were made as late as July 10th, and had scarcely any stores. But this time I fed them in good season, and not with honey either, at least three of them ; but prepared syrup made of loaf sugar, thus :—3lbs. sugar, 1 quart water, brought to a boil, and adding 1 ounce glycerine. Now, as stated on a former occasion, that the glycerine did not prevent crystallization ; but then it was left standing in an open bowl, exposed to warmth and air, and only began to crystallize after being thus exposed for several weeks. This I do not now think is sufficient to prove that it could not be safely fed ; for if seasonably fed, the bees would seal it over ; and as far as I have seen on a recent examination, it appears at this time just as if I had fed honey, though it is now since the 20th of August that the syrup was fed. Thus, after a lapse of three months there is no sign of crystallization yet. Besides, I put some of the liquid in an ounce vial, half filled and corked ; and up to this time, no crystals are to be seen. Now, Mr. Editor, you may think it very strange that I should pay so much attention to this little matter ; but suppose I find those stocks come out all right in the spring, it will be a great boon to me, and to any others compelled to feed their stocks for winter, when honey is scarce, and at least one-third dearer. I can make five pounds of this syrup, glycerine included, for fifty cents, when honey is here selling at from fifteen to twenty cents per pound. Moreover, as some authors assert that bees need only twenty pounds of syrup, whereas with honey they require twenty-five pounds. Now this is what I am trying more particularly to find out ; and if alive and well next spring, will report to you the result.

Last spring I was not a little perplexed. After promising myself to what extent I would increase my stocks, especially those that were so strong in numbers that they were literally overflowing with bees about the first of May, to my surprise I found them, apparently, greatly reduced by the first of June. There seemed to be a sudden diminution in numbers, for from 20th of May to the 1st of June, they were clustering out and doing next to nothing. Some of the stocks having drone brood under way, I expected them to press forward for swarming early, when all at once I noticed that the bees were gone from the outside. On examination, I found rather more bees inside the hive than is usual after a swarm has issued, but less brood than they had previously, for, when I noticed the hive without the usual cluster on the outside, I had suspected that a swarm had left, and that it must have departed unobserved, as I had not watched them diligently enough. I must say, I was fairly puzzled to know the cause of so singular a change, for I had never seen such an occurence mentioned in any writing on bees. At the same time, some of my neighbors, who keep bees on the old-school principles, proclaimed that their bees had cleared out, for they had been hanging out for the last three weeks and had now disappeared. Well, here I stood. scarcely prepared to say that they had not swarmed, nor could I say to the contrary either. I would not have begrudged a five dollar bill had I then been in possession of what friend Gallup wrote in the July number of the Journal, page 10. That I acknowledge is worth a great deal, and I tell you my reason on this ground alone. As soon as I was in possession of it, I thought I could explain the mystery to my neighbors, for to me it was perfectly satisfactory ; but to them I made myself, for the time, a laughing stock. Nevertheless, as my bees, as well as those of my neighbors, had done swarming before I was in possession of the July number, yet I had no doubt that mine had not then swarmed and gone off. But I could not say such was the case with my neighbors' bees, till after reading the article written by Mr. Gallup. Then, after reflecting on it, I started off ; making the necessary inquiry as to which stocks had so unceremoniously decamped. This being ascertained, I learned that these stocks had afterwards swarmed again, (that being, no doubt, the first or principal swarm) on the 23d of June (the first, or supposed first swarm having left on the 3d of June, if I remember right, as I was told a few days after it was believed they had gone off) ; and on the ninth day the queen was heard piping ; the first swarm they hived being a monster, moreover. Now this could not have been the case if the bees had swarmed at the time it was supposed they did, and three weeks afterward swarmed again. There would then have been none but young queens in the hive, which after that period would not have swarmed at all ; and what is still better proof, the piping was not heard till the ninth day after what I consider was the first swarm, came off.

As there exists so much controversy among queen bee raisers—some of whom would have us believe that artificial queens are not as good as natural ones, I will give what experience I have in that line. Though I have not raised queens very extensively, the results appear to me to point in the same direction—that is of non-egglayers, some will not be tolerated when introduced, and some only for a short time. But as I pursued the nucleus system, that is, raising from brood in small boxes, which some style *starvation* system, as I verily believe it is ; I have dispensed with it, and tried the raising of queens from the cell, removing it just before hatching, in putting it in a nucleus box with about a pint of bees. And I now find every queen so raised, last season, prove to be hardy and prolific mothers. One of the number I used in forming a stock on the 20th of August last that had lost its queen by being killed in introducing. Having the young queen caged and placed on the top of the frames for twenty-four hours, and as nearly half of the swarm seemed to enclose the cage, I thought it looked as if they were bound to accept the new mother, and concluded I would liberate her. But in three days after I could not find her. I waited ten days longer, but neither queen nor eggs made their appearance, and as it was late in the season, being the 16th of August, I concluded to break it up, although I had one queen in a nucleus box awaiting the mating with the drones, which were beginning to be so scarce that I kept feeding some stocks in order to prevent their being killed. I succeeded in getting her fertilized, and as soon as she began to lay eggs, I placed her in a cage on top of the frames of the hives that showed such great adherence to their new mother. But this time I tried their patience a little more and kept her caged three days. By that time nearly all the brood was hatched, and the swarm was only one-half as strong as it ought to be at that season; but for experiment's sake I kept it up. On the third day, I liberated the queen, and three days after, being the 23d of August, I had the pleasure of finding eggs in abundance. But, as for the queen, my goodness what a queer sight! I had clipped off the right wing before caging her, and to all appearance the bees must have found fault with it, in this case, as she now had the left forearm off, just a little stump remaining. I suppose they intended thus to preserve the balance in disfiguration! Well, I did not expect much to come after it, but finding her busy laying eggs, I fed them regularly half a pound of syrup, (made as mentioned before) during twelve days, then I doubled the allowance for a week, and by the end of three weeks, she had filled the brooding space. I kept on feeding in that way till the 15th of September, when to all appearance I was going to have the most populous stock in the place; and so it proved itself in fact. But, as you perceive, the entire contents of the hive is *unnatural every way*, with the exception that the queen cell was nearly matured in a populous stock before removal; but not being fertilized in swarming time, and with but one wing and one forearm, and being moreover fed with such unnatural food, and drugged in the bargain; "that won't do" my neighbors *of the natural type* tell me. Well, perhaps they may be right, but I hope to be able to show my No. 4 on its original stand next spring; at any rate you shall hear of it, be the report good or bad.

Well, Mr. Editor, I think I have trespassed the limits of your patience, but trust you will grant me the liberty of saying just a few words more about entire natural queens, of which I proposed to make the only use last season, but I slipped up. Now this is one of the things new to me. I would like to know the experience of some of your correspondents and readers, namely, that out of eleven young queens that I caught from an old box hive which swarmed seven times, I caught first *three*; next day *two* in the forenoon and *three* in the afternoon; on the following day two; and on the next day *one*. Out of some two or three times swarming they invariably returned again, which accounts for so many issues. This is the only box hive I have, and I will put up with it no longer, as it has caused me more trouble and required more watchfulness than any twelve in movable frames. I will, therefore, transfer it next spring. Now, that I may come to the point, I will say of these queens, I arranged them all, singly of course, in nucleus boxes, some with two and some with three combs, 4½ by 6 inches in each, put half a pint of bees of the same hive—that is I made eleven swarms from this box hive, only for the purpose of getting the queens mated; so that, as I might have use for one or more, I would have them in readiness, and have none but natural queens. I found I had to put them in the cellar twenty-four hours, for they swarmed out immediately. The first one and the second, I kept them in a dark place several hours, until they were pretty quiet; then gave them a stand and opened the hive. One by one they left, and all went back to the old hive, till only a small handful remained, and then they went *en masse*. The third I still locked up and kept locked till next morning; and then opened the entrance. The queen passed out three times that day, but was unsuccessful in meeting with a drone. Next morning, when I came, they had just swarmed out and went into a hive that was occupied by a swarm from the same old box hive, being a second swarm hived six days previous. As this hive was furnished with comb, I had difficulty in getting the queen liberated, as she was densely imprisoned and her bees slain. I procured some bees from the old box hive, as they would not likely hurt her. Next day the old box swarmed again, and I got some of the bees and put them along with the queen, as they would stay where put. I kept them confined twenty-four hours, and had them in the box for ten days. She made no attempt to leave to meet the drones, and laid no eggs. She had her forearm off, which I suppose happened when she was among the imprisoning cluster. At any rate, one day I saw robbers storming the box, and what became of that queen I do not know. The fourth queen was duly fertilized, and filled both combs with eggs. She remained seven days, and then swarmed out. I put them back, gauged the entrance three days. After opening it, the first thing I knew they were gone, leaving combs filled with honey, bee bread, and brood, and three drone larvæ in worker cells. The fifth queen did precisely the same. The sixth filled one comb only, leaving two drone larvæ. The seventh laid a few eggs, and skedaddled. So on to the eleventh. Now, queens raised from the cell, and hatched in a nucleus box, never served me thus.

I forgot to mention that, when I started to feed the No. 4 stock, with its crippled queen, I had weighed six other stocks. When all done, on the 1st of October, I weighed them again, and found that this No. 4 only weighed three pounds lighter in proportion to what the others did. That is, it consumed only three pounds more than the others; and while the others had very little brood in the larvæ state, as the honey yield had ceased since July 13th to a noticeable extent, No. 4 raised all its bees after August 20th, and is the strongest in the whole apiary.

C. WURSTER.

Kleinsburg, Canada, Dec. 8, 1870.

[For the American Bee Journal.]

Bees in Connecticut. Foulbrood.

MR. EDITOR :—The honey season of 1870 has been profitable to those here, who fed their stocks liberally in the spring. During the winter of 1869–70 very many stocks perished in this section, of pure starvation. I examined my stocks about Dec. 1, that year, having then just returned from Europe, and found sixteen with less than five pounds of honey each. I put them in a damp cellar, the temperature of which continued all winter at an average of 33 degrees. Closing all the bottom openings, I left open the large hole in the honey board. Over this hole I piled stick candy, which I purchased at 22 cents per pound. Nine out of the sixteen wintered safely, consuming about three pounds each up to the time of setting out. The other seven, having perhaps less honey, dropped dead, a few at a time, and every time I entered the cellar, I found the bottom board covered with them. In some instances I tried pouring honey in the combs, but the result was mould, and more dead bees than where I trusted to candy alone. Several hives, having more than ten pounds of honey, refused to touch the candy, and wintered splendidly. Among those I lost were my three only stocks of Italians. In the spring I found my twenty-three hives reduced to sixteen ; and several of these were so reduced in numbers, or else queenless, that I finally united several stocks, and commenced the present season with but nine colonies.

I fed liberally and had my colonies strong when our orchards here were in bloom, and the stocks gained in weight in two weeks from forty to sixty pounds each. I now felt that all my troubles and anxieties were over, until one morning I discovered what I believed to be foulbrood. I had never seen the disease, and as it did not seem to increase, and was confined to one hive, I let it severely alone, and hoped it might prove some very mild form of the disease.

I swarmed such stocks as were preparing to do so of their own accord—five in all :—the others have not swarmed this season. I use the Thomas Hive ; and when the clover season began, I placed surplus boxes on all but three of the hives ; and though I fixed comb to induce them to begin, they would not work in them. On the three remaining hives, I placed boxes containing six frames each, filled with comb and five inches deep. The honey-board was removed, so that the hive was practically just so much taller. These frames were filled almost immediately, and I emptied them twice a week with the "emptier," taking out twenty quarts in two weeks. They ought to have been emptied oftener, as they were always full when I examined them. I think now that I also erred in not emptying the frames in the hives themselves. As the season was now almost over, and I had again to leave for a trip to Europe, I made similar boxes for all the hives, and left them to work their will on 2½ acres of buckwheat sown on very rich ground. There was no other buckwheat in the neighborhood ; yet when I returned I found all the hives well filled, and the frames in top boxes also filled with sealed honey, much of it in new comb. So far, I felt the season a grand success ; but on a careful examination in October, I found six hives badly affected with foulbrood. You kindly suggested I should try the remedy proposed by Dr. Abbe. I have done so, and now report my progress so far. I first procured an "atomiser," price $3, and then a pound of the extra refined hyposulphite of soda. Thus armed and equipped, I commenced by thoroughly spraying the combs in a spare hive from which I had taken a queenless colony. I found this hive without any trace of the disease, and as soon as it was ready, I put into it a diseased stock, and proceeded to clean its combs, ready for the next. After spending four hours on one comb, I came to the conclusion that man's life was too short for cleaning out each cell and every comb, if badly diseased. I then cut out all the badly diseased comb, contenting myself with thoroughly spraying all the rest of the comb. Where only a dozen or two cells were affected, I treated them as the Doctor prescribes. Of course most of the combs were free from diseased cells. After thoroughly spraying all the combs, I put in another diseased stock, starting them with a clean house and well purified combs. I reduced the size of the hives by a division board, placing a nice warm quilt on the frames, and over that the honey board. I treated four hives in this manner, and prepared two clean hives for the other stocks, which I have concluded to leave in their present hives till spring, as recommended by Quinby.

I do not venture to suppose the disease is eradicated from these stocks, but I hope it will now be controlable, and that an occasional "spray" will ultimately eradicate it. I propose, in the spring, to wash each hive thoroughly with a strong and hot solution of the hyposulphite, and after that to keep a watchful eye on all my colonies.

My hives being so well supplied with honey, I shall winter out of doors. They are sheltered from the north winds, and fully exposed to the warm sun, which even in midwinter melts the snow from their lighting boards, and warms up the hive several times a week.

CHARLES DAWBARN.

Stamwich, Conn., Dec. 2, 1870.

Wax is used for anatomical preparations, or for making fac-similies of fruits. It also serves the sculptor for his models and studies.

Mead is an agreeable sweet kind of wine made of honey and water, boiled and fermented.

[For the American Bee Journal.]

A Season in New Jersey. No. 1.

Mr. Editor:—I propose to give you an account of my operations in this place during the past year, though it is mainly only a series of mishaps, misfortunes, or mismanagement, as you may choose to call it.

I feel that I have learned some valuable lessons in this *dear* school of experience, and therefore will try and share my information with your numerous readers.

I left New Hampshire the last week in December, 1869, with sixteen medium and good swarms of bees and about ten small ones, arriving here with the bees in good shape in two days. Fortunately the weather at that time was mild; but by keeping the bees in such a tumult, of course many were destroyed. Here let me say that I took them by Express, and went with them, thus getting better treatment for them than they otherwise would have had. These Express companies sometimes handle things very roughly, and don't always stop to notice whether a box contains live bees, rattlesnakes, or some other harmless rarity; and when you get a swarm aboard, it *may* be right side up, or it *may not* be.

The two days after arriving were fine warm days, giving the bees an excellent opportunity to air themselves. Although I left the ground in New Hampshire covered with quite a body of snow and ice, I here found nothing of the kind, and began to congratulate myself on my escape from a long and tedious winter. Well, just then my troubles commenced. I knew pretty well, or thought I did, how to care for bees in New Hampshire; but New Jersey is a different place, and I soon found a treatment necessary, differing from that which I had marked out.

In a few days the clouds came up, the winds blew, and the rains came; and if you know what that is in Jersey, near the coast, (we are eleven miles from the coast) you know what I did not know before. Nearly every rain storm is accompanied by a vast amount of wind, bringing the rain in nearly horizontal direction, driving it into every crevice possible, and into some where it seemed impossible. I supposed my hives were waterproof, but they were—some of them—incapable of withstanding a Jersey flood. This, then, we will call lesson No. 1, that a hive not perfectly water-tight, should be securely covered. I should have said that none of mine were so wet as to be materially injured.

I had no beehouse, having thought that in New Hampshire they were better off without, than with such a contrivance, and as New Jersey was so much milder, of course no house could be necessary here. Mistaken again! After the rain had cleared away, a piercing west wind began to blow, and having experienced so much from them, I have now learned to have a wholesome fear of them.

It seems quite likely that a long continued piercing wind, which will chill a man worse than a right cold but calm day, will also chill a swarm of bees in the same way. So I carried the hives into a cellar, and built a light fence to ward off the west wind, and in two or three weeks carried them out again. In fact it was troublesome keeping them in the cellar, as it would get too warm when the thermometer rose, as it did outside, to 60 degrees or more, and this in January. Some of the small swarms began to breed in the cellar; and large ones also, I presume, though I did not examine them, as they seemed to be doing finely. But these small swarms, besides being small, had but little feed, and with the frequent disturbances of feeding, warm weather, and some exposure, they soon began to fail in numbers, and some of them died.

I did not have everything as convenient as desired, and could not have it, so I did the best I could under the circumstances. In the latter part of January, I carried out most of the larger colonies, and prepared the remainder for an absence of a month. During February I was away, and on my return found most of the small swarms dead, and also some of the large ones. The sun would shine out warm, though a cool breeze might be blowing; the bees came out and many became chilled before they could return.

This is the third reason why bees should have a house here, especially in winter.

These winds decimated my stocks during the spring months to such an extent as to utterly ruin some, and so weakened the remainder that they did not become strong in numbers until the best part of the spring harvest was over. They would go out to work, and many were unable to return. It does not take a very powerful wind to blow as fast as a bee can fly, and it requires no great calculation to show that against such a wind it would require all the bee's exertions to battle, to say nothing about progress.

From the causes enumerated my bees became reduced by the first of May to six colonies, and those not very strong. These were at that time reinforced with three more swarms from New Hampshire.

I had expected that the winds would trouble them only a short time in the spring, but they continued to be a drawback on them until June.

This article is already long enough, so I will defer writing more until another time.

J. L. Hubbard.

Bricksburg, N. J.

* * *

[For the American Bee Journal.]

Queens Raised from a Young Mother.

The past season I raised only two queens, artificially, from young mothers. One of the mothers was about three weeks old, the other about six weeks. Neither of these young queens became fertile. One of them had three brilliant and well-defined bands, with the dark lines intervening, like a pure worker. She was large and handsome. Among my other queens, raised artificially, and introduced into strong stocks of black bees, four led off swarms. Two of these swarmed out when the queens had been laying about three weeks. After these stocks had swarmed, three of them were permitted to raise their own queens. The three young queens thus raised became fertile and prolific, and their progeny hardy and industrious.

The number of queens in the above report is small; but as the points involved are about being discussed in the Journal, I give it for what it is worth. As far as it goes it shows, first, that the young queens raised artificially from young mothers were barren; second, that the young Italian queens introduced into strong stocks did not prevent swarming; and, third, that the queens raised from young mothers in full stocks, under the swarming impulse, became fertile and prolific. HENRY CRISP.

Lake P. O., Stark Co., Ohio, Dec. 8, 1870.

[For the American Bee Journal.]

A Swarm in an Airy Position.

MR. EDITOR : I have a cluster of cherry trees quite close to my apiary, on which many of the bees cluster during the swarming season. August 4th, at night, we had a gale of wind, which blew off a great many pears, and I went to the aforesaid cherry trees, to get a table whereon to spread some of the fallen pears, when I found a large circular piece of honey-comb, containing honey and brood, and covered with bees. On examination I found that a swarm had built their combs among the branches in the centre of the tree-top. F. M. ROGERS.

Nora, Ills., Dec. 3, 1870.

[For the American Bee Journal.]

Questions for Novice.

HONEY EXTRACTOR, HIVES, SWARMING, AND TEMPER OF BEES.

DEAR NOVICE :—Supposing your season's work is now over, I avail myself of your offer to put a few questions. I would much have preferred addressing you directly, as my questions may not be of general interest, but must thankfully receive any information in your own way.

For using the honey extractor (Vol. IV., page 35), you mentioned the two-story Langstroth hive, and the extra set of frames; but more recently (Vol. VI., page 15) you say, "as soon as we get out three or four frames, we commence bringing them back." Has the latter plan superseded the former? And do you mean that you keep each hive open while you uncap and empty all the frames? Do you use smoke in taking out frames? I have never yet attempted to take out more than two or three outside frames, and have not touched any with brood. Do you think I may safely go further? What do you think of hives with legs five or six inches from the ground? This is what I am using, and I think a sloping board might be made to answer the purpose of the sawdust banking. Thinking sawdust a nice, clean thing for keeping down grass about hives, in 1869 I commenced covering the yard with it; but as I sometimes use fire about the hives, I found it dangerous, as the least spark in dry weather sets it going.

I presume you are satisfied with last season's yield of honey; but Mr. A. Salisbury, page 109, says, "top-storing hives are now behind the age." Will you endorse that assertion?"

During the past season I had not much trouble from swarming. The queen's wings were cut, and when about to swarm she was caught and removed; and about eight days thereafter all, or all but one, of the cells were removed, as was desired. I had one or two cases, however, where I supposed I had queens with cut wings, that they swarmed. In one instance the bees settled on the trunk of a tree—not clustering closely, but spread out. I hived them in a new hive, but they at once returned to the parent hive. In examining the hive the next day, I found upwards of *twenty queen cells,* some in the lower story, but chiefly in the upper one.

I find a vast difference in the temper of my bees. Some come at me like a shower of shot, on opening the hive; others (raised from a Langstroth queen) I can go to at any time without annoyance. Yours, truly, TYRO.

Ontario, Canada, Dec., 1870.

[For the American Bee Journal.

Theory and Practice.

MR. EDITOR :—I notice a great many of your correspondents, asking for instruction, say—"Give us practical answers, and not theory" Now, I am a great friend to theory, and dislike to hear it spoken of so lightly. Before I commenced bee-keeping, I purchased Mr. Langstroth's able work, and read it through three times (together with several plagiarians of the same), and there I got my theory of management. Then, without ever having seen a drone, I subscribed for the "*American Bee Journal,*" and entered on the campaign of 1868 by buying forty-eight (48) colonies of black bees and an Italian queen. Transferred twenty-nine (29) colonies, and Italianized nearly half of my apiary; also transferred about thirty (30) colonies for neighbors; have moved all my bees twice, and made all my this year's increase artificially; yet I have never had a stock of bees robbed, or in any way lost a colony, when prevention was cheaper than the price of said colony. And this season, I have taken more honey and increase from my bees, than ever was taken in this county before, from the same number, as near as I can learn, although we have *practitioners* here with from ten to forty years' experience.

Mr. Bidwell, of South Haven, (formerly of St. Paul, Minn,) has an odd and original way of doing things, aping no one, adhering to the true theory of bee-culture, the while; and he no doubt has been as successful an apiarian as this county affords. From reports, I conclude that he has outdone all other apiarians in *prevention of swarming,* averaging one year with another only about eight (8) swarms from one hundred (100) stocks. I am sorry to say that Mr. B. is not at all communicative on this subject. Still I think I gleaned enough from him to guess his system of preventing increase, when desirable, which, with your permission, I will communicate to the Journal at some future time.

I like the Gallup-Langstroth hive the best. I should, however, prefer a tight bottom to a movable one, where careless bee-keepers are so close by, and millers as plentiful as around my apiary.

Now, Mr. Editor, to conclude, I have a question of some importance to ask any subscriber that can answer it. I am talking of making my future home in Colorado. What of that country for bees and bee-culture? Can bees be kept there at all? I am informed the mercury stands at about 30° to 32° in winter, and not above 75° or 80° F. during summer. Have you any subscribers in that locality, or one similar in temperature, &c.? If so, I would like to hear from them, and have their opinion as to honey production there. A friend tells me that wild flowers are abundant, especially wild sunflowers; and no doubt white clover and other honey-producing plants, will also have a footing there as the country becomes older. But the question is, will the bees secrete honey enough in that climate to make bee-culture remunerative?

James Heddon.

Dowagiac, Mich. Dec. 12, 1870.

[For the American Bee Journal.]

Wintering Bees.

Mr. Editor:—I notice many articles in the Journal about wintering bees. Mr. J. H. Thomas gives my views exactly. Several years ago, I built a house in accordance with Mr. Quinby's plan, as given in the Mysteries of Bee-keeping, page 329. It was all that could be desired in steady, cold winter weather. But, after two or three years' trial, I found that it was too troublesome in warm spells of weather, such as occur in January or February; as the bees would get up such a heat in the house, that nearly every winter I was compelled to set them out on their summer stands for a day or two, and return them again to the house; though they wintered well, with but little loss.

But the plan I like best, and have followed more or less for the past ten years, is as follows: Set some posts, eight feet long, firmly two feet in the ground—then nail on boards and make a pen, large or small, according to the number of your stocks. A pen, twelve feet square by six feet high, will hold thirty stocks. As soon as it is time to move the bees into winter quarters, I put straw on the ground, six inches thick. On this I set the hives, placing them about two feet from the boards. Then take short chaffy straw or very fine hay, and stuff in between the hives and the boards, as tight and solid as possible, all around the pen, except at the door. Raise the back of the hive two inches higher than the front. Elevate the hives from the bottom board $\frac{3}{16}$ of an inch all round, and open the holes in the honey-board at each end of the hive, leaving those in the centre closed. This is supposing that your hives will take six 6-inch boxes on top, holes for centre boxes closed. Ventilation should be given in proportion to size of colony, as a very large stock will require more ventilation than a small one. Now, as soon as all the bees are moved in the house, and the stuffing is done all around, except at the door, nail on a couple of strips, eight or ten inches above the top of the hives—the hives being set two deep, or one tier on top of the other. Now lay on some poles reaching across and resting on the strips above the hives. Then fill up with straw, rounded at top like a haystack; and thatch with a small load of cornfodder, to keep all dry. Put up some boards at the door, and stuff well with straw; and protect with cornfodder, so as to keep the straw dry. This done, my word for it you will find your bees dry, without mouldy combs; and they will not become uneasy as they do in a tight house. I can build this institution in half a day, put the bees into it, and, as Mr. Thomas says, go about my business,—expecting to take out just as many stocks, all in good order, as I put in. I have wintered, year after year, from twenty-five to thirty stocks, without a single loss. But it must be remembered that I am dealing with good, strong colonies, both in bees and honey.

Joseph Butler.

Jackson, Mich.

[For the American Bee Journal.]

A Mystery Unsolved!

We find the following from C. T. Smith on page 118 of the Bee Journal:

"I have a few of the two-story hives made by the National Bee-Hive Company, at St. Charles, Illinois, and I cannot get a frame into the top story in any other way than perpendicular, as the top bar of the frame is longer than the inside of the hive."

We have read the above over and over again, and still we cannot understand what friend Smith is driving at. We endeavor to make each story of our hives precisely the same length. In general we succeed to a hair's breadth, but there must be some mistake in the hives sent to Mr. Smith. But how it should happen is a mystery, as the material for our hives is all cut by machinery, *and with the minutest accuracy.* When both stories are of the same length, why should not a frame taken out of the lower story fit into the upper one? the rabbeting in both stories, on which the frames are suspended being also the same. "The *top bar* of the frame is longer than the *inside of the hive.*" We don't doubt that in the least! All suspended frames are in the same fix. But that is no reason why they must be put into the hive in a "perpendicular" manner.

But we must give up the problem, until we have an explanation from Mr. Smith. Meantime please rest assured, friend Smith, that we can help you out of any difficulty respecting the proper management of our improved styles of the Langstroth hive. The two-story hive, with frames in the upper story for surplus honey, is rapidly coming into general use. The one-story hive, with boxes for surplus honey, is behind the age; although we still make them for a certain class of our customers. The past season we have made about as many of the one kind as of the other; but the coming year we shall make in the proportion of *four* two-story hives to *one* of one-story. More honey can be secured from *frames*, than from *boxes*, and it is in better shape for *extracting*, for *feeding*, and *for the market*. Honey in *frames* will sell for as much per pound in the Chicago market, as in *small boxes*. Perhaps the advocates of 1 lb. and 3 lb. boxes will dispute this statement, but we happen to be posted in this matter.

The two-story hive requires more tact and experience to manage it properly, than the single hive with boxes; but it will not be long before our largest honey raisers will discover the right way.

M. M. Baldridge.

St. Charles, Illinois, Nov. 3, 1870.

[For the American Bee Journal.]

Two Queens in a Hive. Another Instance.

Mr. Editor :—I send you a little matter for insertion in the Journal, if it is worthy—another instance of two queens being found in one hive.

I see in the October number of the Journal that Mr. A. Green, of Amesbury, Mass., had a case of two queens in one hive. I had a similar experience this season. About the first of July I removed the queen from a native stock and introduced an Italian queen that I had received from W. W. Cary, July 16, 1869. I examined this stock frequently after introducing the queen, and soon found queen-cells started and containing eggs. I removed these cells, as I also did others twice afterwards. On the last occasion one of them contained a larva nearly ready to be sealed over. About the first of September I found two large cells sealed over, and allowed them to remain, as I now thought that the bees were probably trying to supersede the queen on account of advanced age or some other failure, though she did not seem to decrease in fertility, as the colony were now all Italians. On the sixteenth of September, I made another examination, found the cells hatched, and saw the old queen, but did not see the young one. The next day I re-examined them, saw the old queen, and a very large young one on the opposite comb. She was fertile and laying eggs. On the eighteenth, I found the old queen dead in front of the hive. She had apparently not been strong, but had probably dropped upon the bottom board and been dragged out by the bees.

I had another singular queen case in September. I removed the queen from a new swarm and placed her in a nucleus. One day I opened the nucleus and the queen took wing and flew back to the hive from which she had been removed, which was about fifty feet distant, and about the same distance from where the swarm was hived.

This queen was reared and fertilized about five miles from here, in 1868. She had been very prolific, and produced well-marked workers. When removed from the swarm, she had ceased laying, but commenced again in the nucleus and produced *hybrids*. Does not this show that the old queen was fertilized after the swarm was hived?

I agree with Novice' as to the value of the Journal, and believe it to be the best Bee Journal extant.

W. D. Wright.

Knowersville, N. Y., Nov. 1, 1870.

[For the American Bee Journal.]

Again Two Queens in a Hive.

On the 23d of July I opened a hive containing a choice colony of Italians, for the purpose of getting brood for rearing queens. To my surprise, as the season had been very unfavorable, I found four queen-cells sealed, and the combs full of brood. I removed all the cells and one frame of honey, giving an empty one in its place, and let the old queen remain.

On the 8th of August, I had occasion to open the same hive for the same purpose. I then found two queens on the same comb, all quiet and peaceable, with the combs full of brood and eggs. I called for my better half to come and witness it; this was the first case of the kind I had ever seen. I removed the young queen—a very fine one, and gave her to a nucleus, without clipping her wing, as I feared she and not mated with a drone. I also removed one frame of brood from another nucleus. On the 11th and 12th of August, I examined the nucleus, and found the queen was missing, with no signs of her remaining in or near the nucleus. The bees in it had begun to build queen cells by this time.

On the 20th of August, I examined the colony again, and found a young queen *apparently fertile*. I did not see the old queen, and concluded the bees had removed her. August 24th, I examined the hive again, in company with two friends, and found two (2) *fertile* queens.

Now, Mr. Editor, perhaps you or others would ask how I know they were fertile? I answer, from the fact that I removed the old queen whose wing was clipped, and clipped the wing of the young one immediately, leaving her in the colony. She is now laying, and her brood prove to be workers. The old queen was raised in May, 1869, so that it is not from old age that she was superseded; and again she was very prolific—her combs, as I have stated, being full of brood.

Will you give us the cause of two (2) fertile queens being found in one colony?

Could they have raised a queen and she become fertile from August 9th to August 20th?

Remember, that the young queen found with the colony on August 20th was *apparently fertile*; and the one found on the 24th proved to be fertile.

Now, is it not probable that the young queen that was removed and introduced in a nucleus on August 20th, and mated with a drone before she was removed, had either made her escape from the nucleus or took wing while I was examining the nucleus for her (which I had then to do frequently), and returned to her parent hive?

Charles H. King.

Murfreesboro', Tenn., Oct. 31, 1870.

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[For the American Bee Journal.]

"Honor to Whom Honor!"

Mr. Editor:—In the June number of the Journal, I found an article on systematic plagiarism that was both true and timely. I had long before felt that it was time that the many able correspondents of the Journal should comment on this; but it is never too late to do right. Where is the bee-keeper who will look back for fifteen or twenty years, and then ask himself where he got his knowledge of bee-keeping, if he knows anything worth naming, who will not unhesitatingly point to Quinby and Langstroth. Well do I remember twenty years ago, when the best guides the bee-keepers had were Weeks, Colton, Miner, Bevan, &c. These were good in their day, because we had no better. But one day, reading the American Agriculturist, I saw announced the "Mysteries of Bee-keeping Explained." I bought the book, and after reading and re-reading, I would not have taken fifty dollars for it if I could not have replaced it. I found Langstroth's work about the same time, or a little later. Now, Mr. Editor, what has been added to those most valuable books? I have purchased everything that I could find, written in the English language, and for my life I can find nothing. And yet, as Dr. Puckett says, the miserable pretenders of the present day would pass them by among the things that were, and take all credit to themselves. Yet every single idea their heads contain was gleaned from Quinby or Langstroth. Now, sir, my motto is, "credit to whom credit is due." Let all the friends of bee-culture everywhere keep the names of two of the greatest of American apiarians before them, whose fame will survive when the miserable herd of plagiarists are forgotten. For myself I shall ever hold them in grateful remembrance. Every young beginner should procure and read their works and digest the instructions well; and they will find the sure road to success.

Joseph Butler.

Jackson, Mich.

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[For the American Bee Journal.]

Natural, Prolific and Hardy Queens.

PART IV.

A continuation of my letter on "Bees in Iowa," page 82, October number, Vol. VI.

As mentioned in said letter, I received an Italian queen, which I proposed to test against my blacks. On the morning of the 11th of June, I started for the express office, nine miles distant. It was quite chilly, and the mercury in the thermometer stood at 34 degrees, only two degrees above freezing. In due time I received my box at the office. After paying the C. O. D., I rapped on the box—not a whiz! Rapped again—turned them over, blew through the cracks, but could get no response. The conclusion I came to was, that I had either a box of dead bees, or their docility or impeccability of temper indicated that I had purity simmered down. I wrapped them up, and for additional warmth placed them under my arm, under my overcoat. I heard nothing from them on the way home; tried, but could not rouse them up; had a fire built, and placed the box over the stove, when the room was well warmed up. To a rap on the box there was a feeble response. I darkened the window and lit a kerosene lamp, and called in several neighbors to see the "big thing." Our private opinion, as then and there expressed, was, that the Italian bee was like the Cardiff giant—"one grand humbug." I placed them back in the box, and set this over the stove, to finish thawing out, while I looked over the back numbers of the American Bee Journal for a sure mode of introduction. Concluded to place the queen, and the bees that came with her, on combs of sealed hatching brood, and not risk her introduction to a strange swarm. Went out and took the best frame that suited me from six hives; placed them in a Casket, put the queen and her bees on them; wrapped them up warm, left them close to the stove, and kept the fire up all day. At dark looked them over, and concluded it was too slow; placed the Casket in an outside case, on a stand; shook the bees from seven hives at its entrance. It being then too dark for them to fly back, they took lodgings for the night, but most of them left the next day. This also being too slow a process to build up, I concluded to introduce them to my swarm under the swarming impulse. Looked through said swarm for their queen, but could not find her, although I tried several times, and darkness put an end that night to further search. Scented the hive containing the Italian queen, and the one I proposed to introduce her to, with sweetened water, *highly flavored with anise*—bees, combs and box. In the morning removed the Casket and hive from the outside case, and placed it some six feet from the entrance to the case, at the end of one of my store shutters, and caged my Italian queen. Here I found the first *advantage of the Italians*—the queen so easily found. After being sure that my Italian was alive and safe, I turned to my blacks, and proceeded to brush them from the combs on the shutter, one by one, until I found and caged the black queen. After putting her in a place of security, I set all the frames with brood in the case, and inserted my caged Italian queen between two combs. The Italian workers staid close by and waited on their queen through all these changes. After again scenting the bees, combs and hive, I closed it up, scented the bees on the shutter, and shook them down at the entrance, when they commenced running in. About every hour or so during the day I scented the bees, combs and hive again with flavored, sweetened water. At sundown, as the bees had not shown by their action that they had missed their queen, and in putting back the combs I had destroyed even the old queen-cell foundations, I removed the cork from the queen cage, from that end most filled with a mixture of honey and sugar, "thick;" scented the bees, combs and hive again; placed back the cage and closed up the hive for the night. In the morning, after scenting them again, I found that they had liberated the queen and taken care of the mixture. She was thus introduced on the 13th of June: and I scented them several times a day till the morning of the 19th, before I attempted to examine the frames, to see if she was safe and had laid any eggs. On the 19th I could stand it no longer, and must know her fate, then and there. So just as it was getting light I thought I would make the examination, before the other bees were flying, so as not to be disturbed. An examination of the first three frames revealed her personal safety, and that the bees had started queen cells; but it was not yet light enough then to make out if eggs were in them. I kept up the stimulative feeding during the day, and just before sundown made another examination, and found some twenty-five queen cells started, and twelve of them with eggs and larvæ in them. I examined them every day, and continued the stimulating several times a day, until the morning of the 25th of June, by which time the cells with eggs and larvæ in them had increased in number to some twenty-three or twenty-five. At noon, against all the authority of our most respected writers on bee-culture, she led out her swarm—9½ days after her introduction and liberation, and nearly four days before the first cell was capped over. I don't take any stock now in the claim that bees will not swarm until a queen cell has been capped one day. The black queen did not swarm even on the first day after the first queen cell was capped, while raising any of the five batches of queen cells I secured seven queens from this batch of cells, giving each queenless stock that I introduced them to three or four cells. Of the seven young queens, one was without wings; one became a drone-layer; one, "the most prolific one," laid eggs which would not hatch; four of the seven proved to be as prolific as the best of my old, natural "black" queens. As they mated with black drones, the stocks are hybrid. This queen laid only a few worker eggs during the 9½ days she was in the hive.

After securing her swarm I thought she would do better; but she laid hardly as many eggs during nearly a month as she ought to have done every day. I kept the swarm up by putting in frames of brood. About the first of September she commenced to do a little better than she had been doing. After swarming, I thought I would test and find out if the artificial queens from Italian broods were any better than from black brood. The result is, that from the 1st of July to the 1st of September I succeeded in raising two queens that laid eggs; and five that had not laid any up till the middle of October! seven in all, when last examined, out of about forty hatched. And in the experiment, I totally destroyed several of my best swarms. My natural queens did better. I did not lose one out of twenty-four; and they averaged me about thirty pounds each of strained honey, besides about sixty pounds left in every hive to winter on. The best of the artificial swarms did not collect their living, and the whole of their winter stores had to be given them. Out of all the artificial Italian queens, not one was over one-half or two-thirds as large as either of my natural queens. Any artificial queen that I saw immediately after hatching, did not seem to have hardly any vitality on emerging from her cell; although those that were raised the nearest from the egg, and in large colonies, were both larger, and quicker in their motions. The artificial queens that have vitality enough to live, and are well nursed by their bees, grow to be medium-sized queens.

My Italians grow lighter in color with age, and the one I raised my queens from is not over half as dark now as she was when I received her in June.

My experience in raising queens for the last five years is, that I can raise twenty natural queens, that will be the equal of their mother, to one artificial queen from the same mother that will live until she is two months old, and be one-fourth to one-half as prolific as her mother. With the honey harvest as late as it was this year, my young swarms gave me on an average as many pounds of strained honey as my old stocks, that had not swarmed.

In introducing queens from hive to hive this summer, I found that by scenting them with anise, in sweetened water, a day or two—both hives—the queens can be changed about without the least danger. I introduced nearly twenty queens to strange hives this summer, some fertile and some not impregnated, without losing one; and it was only my Italian that I was breeding from that I took the precaution to cage. By getting both queens of one scent, and shaking the bees on the ground in front of the hive, and placing the introduced queen on a frame of brood in the hive, after the bees have been well fed, seems to be without any danger—although for a valuable queen the caging for twelve hours is the safest.

In overlooking my bees I made all the colonies average nearly sixty pounds each. In this country they do not gather much honey, if any, from the 1st of September to the middle of July. At least, for four years back they have not done so.

My next communication will contain my experience and method of artificial swarming.

I have come to the conclusion, from my summer's experience, that the Italians are better than the blacks, on all but two points. I do not believe that they will prove any more prolific; and they stick too fast to their combs. One thing is sure, your bees must be all one or the other, or the hybrids will soon clear them out.

My Italian that I received from Charles Dadant was a young one, of this year's raising; consequently, could have been only a few weeks old when received. As she was the most unprolific queen I have ever had that lived as long as she has, I think that the chilling she received in her transit from Hamilton, Ills., to Winthrop, had a great deal to do with her extreme unprolificness, in the way Mr. Langstroth mentions in his work. Her queens—"artificial ones"—were all duplicates of herself, for size and color. As for fertility, none went into brooding early enough to pass judgment thereon, except that they were not as forward as her natural ones, for long before my natural queens reached the age at which the artificial one commenced laying, they had filled up their hives with brood.

The black queen, that I removed from the swarm under the swarming impulse, I introduced to a medium swarm without a queen. I gave them three frames of brood and two of honey, placing the two with honey one at each side of the three with brood, and filling up the sides with five empty frames. Thirteen days after introduction she led out her swarm. So you see that the five weeks' swarming fever was not to be broken up by the change. I destroyed the queen cells at her introduction, and there was no uncapped brood in the hive at the time. Two days after her introduction I found her eggs in the cells; and the hive having only three frames for brood and five empty frames, I did not look for a swarm. The swarming was a surprise to me. As one man in the illustrated Bee Journal has gone so far as to inform us that the queen never lays an egg in a queen cell, and that the bees never carry the eggs to them, but that the bees *always* make a queen cell over worker brood—if he will next spring follow my directions, as given in the July number of the American Bee Journal, and examine the combs three times a day, he will see the *queen cells* commenced and in *all stages*, until the eggs are in them. Then he can watch their development until they are capped; and he will then see that a swarm under the swarming impulse always commence their cells several days before the eggs are in them. Only bees forcibly deprived of their queen, or bees preparing to supersede an old queen, transform worker cells to queen cells.

As I have not come before the bee-keeping community with a secret process for raising better queens than other breeders can, and am not prepared to go into the queen-breeding business this next season, bee-keepers who still think that I may be mistaken in the result of my experiments need not take it on faith, but can verify all for themselves, and get queens that are worth several times as much as any forced one they ever raised, and at less expense and with a great deal less trouble. Hoping that some reliable breeder will conclude to fill a demand already made for queens by this process, I remain yours, as ever, JOHN M. PRICE.

Buffalo Grove, Iowa.

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Never, under *any* circumstances, take so much comb and brood from your stock hives, as seriously to reduce their numbers. This should be to the apiarian as "the law of the Medes and Persians, which altereth not."—*Langstroth.*

[For the American Bee Journal.]

Supplement to Alley's Offer.

(See Dec. No. page 137.)

I will send by mail a choice Italian Queen to each of those persons sending in the fourth, fifth and sixth largest lists of new yearly subscribers to the American Bee Journal.

To each of the first twenty persons who forward their subscriptions to me, I will send one choice Italian queen for one dollar.

All over twenty and up to one hundred, may each have one queen for two dollars.

This offer is limited to new yearly subscribers and February 1, 1870. Two subscribers at six months each, will be reckoned as one yearly subscriber.

Here is a chance to get the Journal at cost, and queens at greatly reduced prices.

This offer is made to aid the circulation of the American Bee Journal, and not from any lack of customers, as I have never been able to supply the demand, and during the past season could not send one-third of those desired from my apiary. Right here let me say a word on sending queens. Out of over one hundred sent by mail the past summer, only two or three sent this side of the Mississippi were reported weak on arrival, and *none dead.* Of five sent to a distant point, in Missouri, one was weak and soon died, and two were dead on arrival. They were over a week on the way. I continued to send by mail until after the middle of October, and the last seemed to go as safely as any. I think, with due care, they may be sent as early and as long as queens can be raised. The feed supplied is only the best of honey in a piece of sponge; and in cool weather an extra covering is placed on the box.

J. L. HUBBARD.

Bricksburg, N. J., Dec. 7, 1870.

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[For the American Bee Journal,]

A Puzzle for young Bee-keepers.

A honey bee came to visit her humble bee cousin, one morning, as the young bees, just emerged from their cells, were crawling about rather helplessly.

"Sorry," said the bustling humbler, "that I can hardly find room for you to get a seat. Have you as large and bustling a family at home?"

"Ha, ha," replied the bee, counting the wriggling throng, "let me see, the one-third of our number is just as many thousands as you have individuals here; and the one-fourth of your number is exactly the twelve-thousandth part of ours."

Of how many was each family composed?

FUCUS.

THE AMERICAN BEE JOURNAL.

Washington, Jan., 1871.

☞ When this number of the Journal went to press, no account of the National Bee-keepers' Convention, held at Indianapolis, on the 21st and 22d ult., had reached us. We shall probably receive its proceedings in time for our February issue.

Another National Convention of Bee-keepers is called to meet at Cincinnati, Ohio, on the 8th and 9th of February next; and of its transactions, also, we expect to receive an account in due season. We trust that it will be composed mainly of true hearted, intelligent, and experienced apiarians, impressed with the conviction that the prime object of such Conventions is to promote BEE CULTURE, and not to foster *kingcraft*.

☞ Stimulative feeding, for the production of early brood, should not be resorted to by any who have not resolution, energy and perseverance enough to continue the process regularly, till the object aimed at is fully attained, and the bees are able to supply themselves from natural sources. To stop feeding after much brood has been hatched under stimulation, may easily lead to the destruction of a colony, by the exhaustion of the stores on hand, which, in other circumstances, would have enabled the colony to reach the opening spring in safety.

The Foulbrood Cure.

We were gratified in receiving from Dr. Abbe the subjoined letter, giving an account of a quite recent experiment for the cure of foulbrood; also the piece of comb referred to, taken from one of his hives. The comb appears to have been thoroughly cleansed by the bees, and prepared for renewed service. We shall carefully preserve it, and after spraying it again in the spring with the solution of chloride of soda, insert it in a healthy hive and report the result.—To cure the disease and save the combs in a safe condition for future use, is the great desideratum, and we hope that another season will suffice to demonstrate that this has been attained.

New Bedford, Dec. 14, 1870.

DEAR SIR:—I send you to-day a piece of comb, with the following history: In looking over my bees for the last time, about the middle of November, I found one sheet of comb badly affected with foulbrood, in a hive which I had supposed entirely pure until then. As I was in some hurry, I used the atomizer, with the solution of chloride of soda, with the bees clustering on the comb, and as it was rather cool, they did not move out of the way as readily as usual. In a few days it grew warmer, when I again removed the frame, with the intention of shaking off the bees, to give it a more thorough examination, as I feared that there were some cells containing foulbrood, which had escaped observation in my former haste; but with the first shake the whole comb, which was very heavy, broke from its fastenings. I removed the empty part, intending to put it in a nucleus hive next summer, with a fertile queen and pure honey, to test whether foulbrood would re-appear in it; but on the whole have concluded to send it to you. It was nearly filled on both sides with the disease, but I found (as I thought I should) a few cells which I had not medicated, and which now remain as they were at that time—one of them capped and the others with the dead larvæ dried up. All the rest the bees have thoroughly cleansed, so that not even a suspicion of foulbrood is left behind. A second medication would have made it perfect.

You are perfectly aware of the great reluctance of bees for cleansing cells which are filled with this disease; but after spraying the comb with the soda, they have no hesitation in making a thorough house-cleaning.

I have stored my sixteen swarms in my Novice bee-house, which, by the way, works like a charm; and although six of them have been diseased, some of them badly, I think that no person can find a trace of the disease left; all the combs being as clean as the clean part of the specimen I send you. Whether or no the disease is locked up in the capped honey cells, to re-appear in the spring, time alone will show.

If this disease, which has raged with me, is a mild form of foulbrood, I pity those who have it more malignantly. Yours, very truly, E. P. ABBE.

Many practical bee-keepers are of opinion that pollen is not indispensably necessary for bees during the winter, and experiments have shown that all the essential operations of a colony may proceed from October to May, or fully six months, though the hive contains not a particle of pollen. It seems certain, nevertheless, that ordinarily bees do consume pollen during all the winter months, except, perhaps, in November; at least Dr. Dönhoff, examining the intestines of bees, found traces of pollen therein at all times, except in that month. He communicated this fact to Prof. Leuckart, who confirmed it by his own independent observations, but shortly after discovered that the mucous tissue, lining the intestines, undergoes decomposition and renewal annually—the sloughing off, or moulting, as it might be called, commencing at the end of October and terminating about the beginning of December; thus coinciding in the main with the period in which Dr. Dönhoff could detect no evidence of pollen in the intestines. Hence the presumed non-consumption of pollen in the interval may have some connection with the abnormal condition of the insect at that time.

It is somewhat surprising that professed entomologists, who can tell us precisely how many joints there are in the antennæ of queens, drones and workers, and describe minutely how the nervures of their wings are arranged, and how the various sub-divisions are named, have so imperfect a knowledge of the natural history and habits of these familiar insects, which they have almost daily opportunities for studying. Thus, in one of the latest and most elaborate treatises on BRITISH BEES, speaking of the queen of the honey bee, the author tells us—"the number of eggs she will lay in a day is *about two hundred.*" Again, referring to the queen's ovipositor, he says—

"it is possibly, from some taction of this instrument, that she discerns the *sizes of the eggs*, and thence *their respective sex*." And, finally, "she lays about ten or twelve thousand eggs in six weeks, depending much on the propitiousness of the season"; his estimate of the extent of her faculty in this line being based on what she produces in April or May, "as it *slumbers during the summer heat*, and *revives again in autumn*, but *totally* terminates with *the first cold weather*." So much for studying a subject with the aid of musty old volumes alone, instead of resorting to a movable comb-hive for instruction, and using one's eyes diligently, even at the hazard of a few stings.

During the solar eclipse, July 18th, 1860, Miller, a German botanist, observed issuing from the leaves of the Norway maple (*Acer platanoides*) a fine spray, consisting of minute vaporous saccharine particles. Next morning innumerable aphides appeared, imbibing the excreted sugar—clearly showing that they were not the cause of the saccharine suffusion, as is commonly supposed. No more satisfactory explanation of this phenomenon has yet been proposed, than that the sugar in the sap of the tree is produced too rapidly and too plentifully, by the conversion of starch, to be duly appropriated by the absorbent vessels of the cellular tissue, and is then excreted through the minute pores of the leaves. Whether this accounts for "the milk in the cocoanut" we shall leave for those to decide who are skilled in vegetable physiology.

CORRESPONDENCE OF THE BEE JOURNAL.

SPRINGFIELD, Ills., Nov. 17, 1870.—I became interested in the bee question about the 1st of July last, and immediately subscribed for the American Bee Journal, since which time every article has been carefully perused, and most of them re-perused. Enclosed please find two dollars, for which send me Volume V. of the Journal. It seems long to wait from one month to another for the welcome numbers to arrive, so the only alternative seems to be, to take the "back track," and "read up" the back volumes.

I obtained five small, late swarms, during the very dry season, and as Langstroth says, "to build up small colonies by feeding requires more care and judgment than any other process in bee-culture," and being entirely ignorant of the manner in which the judgment should be used, I concluded to let all but one "build up themselves." The result was, they neither made honey nor comb, and literally starved to death, and "went the way of all the earth." To the fifth I fed syrup of sugar, and thrived pretty well, and is now my only swarm. But I am not weary in well-doing; have engaged some more swarms for the coming year, and hope, with the experience of the past season, and the information gathered from the pens of Langstroth, Quinby, Novice, Gallup, Alley, and the many other practical and interesting writers of *our* Bee Journal, to succeed better in future.

I was very much interested in reading Dr. Abbe's article on foulbrood. I have never seen a case of it, and hope sincerely I never shall; but believing it to be caused by parasites, or living germs, and having had an extensive experience with sulphite and hyposulphite of soda in the destruction of germinal and parasitical life, it struck me very forcibly that the doctor had made a "happy discovery," and that we should now say to foulbrood, that "fell destroyer" of the bee family, "thus far and no further."—H. O. BOLLES.

BLOOMFIELD, Canada, Nov. 17.—No intelligent apiarian should think of doing without the American Bee Journal—Bees did very well in this section. We have about sixty stocks, all more or less crossed with the Italian. They are very heavy. The brood combs are nearly all full of honey, and capped over.—S. J. BOWERMAN.

WAVERLY, Iowa, Nov. 23.—Send along the American Bee Journal. Those who keep bees, and don't take the Journal and pay for it in advance, deserve to have all drone-laying queens next summer. The first frost we had was on the morning of October 13, and the first flake of snow November 13. When strange bees get into a hive to rob it, do they first attempt to kill its queen, or do they go for the honey? I received ten queens from Adam Grimm, and introduced them for my friends, except one, which I put into a nucleus, and the robbers pitched in, and before I knew of it had taken all its stores. I set them in my dark bee-house, but they all got out through a crevice and left, and I found no more queen.—H. K. SWETT.

DAYTON, Ohio, Nov. 23.—Bees in this vicinity did but poorly the past season. Cause—a late and cold spring, with a very dry summer and fall.—E. D. PAYNE.

BUSHKILL, Pa., Nov. 25.—I have over one hundred colonies of bees, and should like to raise something that will produce bee-pasturage in the interval between the white clover and buckwheat. I would like very much to try the partridge pea, spoken of in the November Journal.—W. SCHOONOVER.

NEWBURY, Iowa, Nov. 25.—The past season has been rather a good one, in our locality, for bees, although mine did not store very much surplus honey. They swarmed rather too much. I had twenty colonies in the spring, and they cast off thirty-eight swarms, all of which are strong enough and rich enough in stores to winter well—except only three. Please send along the Bee Journal, for I cannot afford to do without it.—A. SNYDER.

GEBHARTSBURG, Pa., Nov. 26.—Bees in this section have most generally proved successful this season. Those that were managed on improved principles have demonstrated that bee-keeping pays for proper attention. The bees that were left to themselves (and, I am sorry to say, the greater part are so left), did as well as could possibly be expected, considering the condition they were in in the spring. My bees have done far better than I expected, yet I cannot crack up with as big figures as some of my friends in the Journal. I would say, however, that I am satisfied with the result, and with the help of the Journal, and continued good health, I will endeavor to improve every opportunity that may offer.—W. BAKER.

WHITNEY'S POINT, N. Y., Nov. 28.—Bees have done very well here. The weather was warm and pleasant here yesterday and to-day, and bees are having a good time, flying.—F. M. DICKINSON.

ATCHISON, Kansas, Nov. 29.—The past season was not good for bees here; but we made enough honey to satisfy ourselves that without a honey-slinger it would have been poorer still. We only find trouble to decide on the hive which is best adapted to the slinger.—J. Belz.

Batavia, Ills., Dec. 9.—I received two Journals this week, and concluded No. 2 was sent expressly to have me get you a new subscriber. So I went directly into the street, and did not return till I had secured two subscribers. Now, Mr. Editor, if each one of your patrons will do the same, you will have a good addition to the number of subscribers for your valuable paper. The American Bee Journal is a paper which all bee-keepers should have, and a little exertion by each one of its patrons will give it a good circulation. I like Mr. Alley's movement, and will do all I can for the Journal. I should be glad to have it come twice a month. My bees are all quiet in their winter quarters, with plenty of stores to carry them through the winter. It has been a poor season for bees in this section, because of the dry weather; but I am glad to see my brother bee-keepers prospering in other sections.—W. J. Frazier.

Northfield, N. H., Dec. 9.—I am much pleased with the American Bee Journal; think it a very desirable publication, and hope will soon be able to send it out oftener than you are now able to do.—A. P. Cate.

Smith's Mills, Pa., Dec. 10.—Bee-culture in this section of the country is very much behind the age; still there are many persons who are using the movable-comb hive. Bees did well this summer, more particularly in casting swarms. They worked very late in the season. On the 3d of November they were very busy in carrying in pollen, although we had a number of frosts. They built comb and stored honey the last week in September, and worked, more or less, all through October. With this you will find a specimen of the flower on which they worked strong. [It is the New England Aster, or *Aster ericoides, L.*] Some one, at one of the Bee-keepers' Conventions, said that the bees will collect honey from the Spanish Needles. The weed is quite a pest in this section, and during the summer I made it my business to watch for bees on it, but never found one. I do not think they will touch it.—J. S. McKiernan.

Nunda Station, N. Y., Dec. 12.—I do not know how I could get along without the Journal. My bees have done exceedingly well the past season. I commenced in the spring with nine colonies, and have increased them to seventeen, and have taken over seven hundred (700) pounds of surplus honey from them. One new stock filled one of H. Alley's Langstroth or Bay State hives, and made over seventy pounds of box honey. Wishing success to the American Bee Journal, I close.—J. A. Thompson.

East Saginaw, Mich., Dec. 12.—Allow me to acknowledge, in few words, the fairness, honesty and promptitude of Mr. Adam Grimm, of Wisconsin, and the purity of his Italian bees.—J. Carr.

Newton, Iowa, Dec. 13.—Our bees are out of doors yet, the fall weather has been so fine. In some localities in our county bees did well last season, but in others rather poorly. Some old bee-keepers say they never knew so poor a season. Very few natural swarms issued—probably not more than one to a hundred hives. Those bee-keepers who did not understand dividing lost by getting no increase. Colonies that were divided early did very well. All hives were full of honey last spring, and with all the increase of swarms, there is probably not as much honey now in the county as there was on the 1st of April last. The season of 1869 was exceedingly wet, and that of 1870 extremely dry. We are all hopeful for the season of 1871. I wintered thirty colonies last winter, one-half of them in my cellar and the other half in a small room up stairs. All came out in good order, nearly as heavy in the spring as when put away, and, I think, with many more bees. I divided one hive May 15th, and three times more during the season, and also divided the first three swarms—thus making eight from one, and all as strong as any of those that were divided only once. Was the queen the sole cause, or why so much difference from other hives, apparently as strong both in bees and stores? Our State Convention meets at Des Moines next Thursday, 15th inst. You will, no doubt, be favored with what the combined wisdom of Iowa apiculturists shall devise. I trust that our experienced ones will so ventilate the subject that an increased impetus will be given to the science in our young State, and of course the American Bee Journal get an increased number of subscribers. Please tell us, or ask Novice, or some one else who knows, where we can get the best jars for honey, and the price of pints, quarts, etc.—C. J. Housel.

Mountjoy, Pa., Dec. 13.—I enclose two dollars for the American Bee Journal, which I think is not fooling the money away for nothing. The Journal is worth twice its cost. Bees did poorly here last season. The white clover had very little honey, and the grasshoppers destroyed the second crop of red clover. It was all grasshoppers in the field but a little, and that was grasshoppers. I have forty-two colonies, which have all enough to carry them through the winter, except a few, to which I will give honey in combs. Long may live the editor, to publish the American Bee Journal.—J. F. Hershey.

Vermontville, Mich., Dec. 14.—I first became interested in bee-keeping by reading the article of Mrs. Tupper, on that subject, published in the Report of the Department of Agriculture, in 1865. Last spring I commenced in a small way, but having no practical knowledge, and but imperfectly understanding the written theory, as might be expected, "made a bad botch of it." Yet, as I never succeeded in anything at the first attempt, I am not discouraged, and, like Mordecai at the King's gate, am determined to "hold on" and persevere. I have read the Bee Journal attentively the last year, and like it. Enclosed find four dollars, for which please send Journal the next year to myself and my friend. I double the subscription list in this place, as you see, which in multiplication of stocks, is by best authorities considered a safe rule for beginners. I suppose that, with your longer experience, you could perhaps manage a larger increase successfully, but for this year must be be content with "making haste slowly."—H. J. Martin.

[We should be perfectly content with a like rate of annual increase all through the mail book.—Ed.]

Athens, Ohio, Dec. 19.—The past season was a most remarkable one. Scarcely any rain fell from May to December, yet the honey crop was most splendid in quality—almost able to stand alone when taken upon the knife. The months of May, June and July were unusually warm, with an unusually humid atmosphere, which must account, I think, for the remarkable secretion of so much fine honey. The year 1869, though hot and dry, with an entirely different atmosphere, produced honey that appeared determined to escape the jaws of death, by escaping from the combs, running out of sight—so much so that I had great difficulty in getting it to market. Verily, is there not much yet to be learned on this subject?—J. W. Bayard.

[For the American Bee Journal.]

To guard against Swarms leaving for the Woods.

MR. EDITOR :—I will give your readers a little sketch of the main cause of bees leaving for the woods in swarming time,

I can say I have lost only one swarm of bees in more than twenty-five years, and can give the reason for that. I was absent, shearing sheep, a few years ago, and left some of the little folks to watch my bees ; but they did not watch close enough to see them come out and settle. So when the swarm was ready to seek a new home, it came right by where I was at work, and that was the last I saw of it. They were gone, like the fellow's sheep ; and sure enough when I returned to my apiary, I found it was my swarm that had left. I saw a few bees still flying about a limb, and when I went there to examine, I found little particles of wax stuck all along the limb where the bees had clustered.

In another case I know of, the hive was rather small and the covering got knocked off on a very hot day. The bees became so heated in the hive that they left for the woods. They had been only about ten days in the hive, which was mostly filled with combs and honey ; yet almost every bee left.

The cause of their leaving thus, is that when swarming in hot weather, and hived, the hive is left standing in the sun without shelter, and the hive gets so heated that the bees are almost suffocated, which compels them to come out and seek for some cooler place.

When hiving a swarm, as soon as nearly all the bees are in, especially the young ones, though there should be some hundreds of the older ones still flying, I pick up the hive and carry it to the place in my stand where I intend it to remain for the season, cover it well, and set up a board or other screen on the west side to shelter it from the hot evening sun ; that is, if I have no shed to set it in. I know of lots of swarms that went to the woods in this section, just from being unprotected from the hot sun after hiving.

I sold a man, living about a mile from here, a colony of Italians, two years ago, and he came running to me to say that one of his neighbors told him that the Italian swarms would all go to the woods, and he was afraid it was too true. I asked him where he set them when he put them in a hive, and he said, "Just where they lit on the tree." "Did you cover them to keep the hot sun off?" "No," replied he, "I did not know that that would hurt them ;" though the weather was almost hot enough then to cook them. He sold out to another man this summer, whose first swarm served him the same way. He came running to inquire what was the cause of his bees leaving him, and said one of his neighbors told him they had left the year before in the same way. I asked him if he didn't leave them setting in the hot sun ; and he replied that he did.

Another colony that I sold to another man, left in the same manner, and from the same cause. A man living about five miles from here lost seven or eight swarms this summer, under like circumstances ; but not one swarm out of a hundred will desert, if properly attended to in due time. I use no looking-glass, or old bells, or anything of the kind, when hiving swarms, but only give them a good clear hive, and a good roof over them to keep off the rain and the hot sun, thus making them comfortable in their new home.

There is much superstition among bee-keepers in some districts. They have singular notions of witchcraft, and queer ideas of luck, such as selling or buying a man's luck. So, too, it is believed by many that if the head of a family dies, the bees will die too. In this there is just so much truth that the head of the family is generally the bee-keeper, by whose care and attention the bees were kept in a thriving condition ; and when he dies, the rising generation don't attend to them, and the result is the bees die, and the story stands afresh—"there's no luck for bees when the father dies !"

All this notion of selling luck is a mere humbug. I will and do sell bees whenever I can make something out of them, or get for them nearly what they are worth. Bad luck arises only from no management or mismanagement. Good management always makes good luck, for the Higher Power has promised to give seed time and harvest to the end, and sendeth rain on the just and on the unjust. ALFRED CHAPMAN.

New Cumberland, West Va., Nov. 28, 1870.

* * *

[For the American Bee Journal.]

Balm used for Alighting Bees. An Inquiry.

MR. EDITOR :—Over forty years ago, my father, in Canada, kept a few bees for a term of years. When they swarmed, we were accustomed to pick a sprig of balm, and go as near as convenient to the main body of the bees and select a limb of a fruit tree convenient to hive them from, and with one hand rub on the balm ; and if the bees alighted *near* the place, it was always on the very limb and place thus rubbed. The balm was called Low Balm or Bee Balm. It was perennial, and always large enough for use at swarming time. If any one has knowledge of the *kind*, and of its use as above, I shall be happy to be informed. I have not found the right kind here. In the Journal for December, Vol. VI, page 120, there is a notice of balm (*Melissa officinalis*,) as having an agreeable smell for the bees. Perhaps that is the kind. Who will tell, and also where it is to be had?

ALONZO BARNARD.

Bangor, Me., Dec., 1870.

* * *

[For the American Bee Journal,]

MR. EDITOR :—As several parties are inquiring if there is a Bee-keeper's Association in Ontario, I would answer through the Journal, "There is, and it meets annually at the time and place of the Provincial Fair. Next year it will meet at Kingston, Ontario. President, Rev. W. T. Clark, Guelph ; Vice President, J. H. Thomas, Brooklin ; Secretary, A. C. Atwood, Vanneck." J. H. T.

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[From the Prairie Farmer.]

North American Bee-keepers' Association.

Feb. 10th, 1870, Prof. A. J. Cook, Secretary of the Michigan Bee-keepers' Association, issued a circular, which he mailed to the members of that Association, to the prominent bee-keepers of other States and to the press, inviting everybody interested to meet at Lansing, Michigan, on the 21st of March, for the purpose of discussing special questions on the subject of Bee Culture, prominent among which would be the holding of a National Bee-keepers' Convention, at some central point during the year. On the day announced, the Convention was held at Lansing, and the question of holding a National Convention was discussed with the wildest enthusiasm. As was anticipated, the discussion resulted in a call to the bee-keepers of America for a National Convention, to be held in Indianapolis, Indiana. The location was happily chosen, and has given very general satisfaction, it being centrally located, and readily accessible by a complete net-work of railroads.

Accordingly, on the 21st of December (the day finally fixed upon,) a large numb r of the most prominent and enterprising of bee-keepers of the United States and Canada, met in convention at the House of Representatives, in Indianapolis, and held six sessions, the last one ending at midnight on the 22d of December. Every seat in the house was occupied; the States represented being Indiana, Illinois, Michigan, Ohio, Wisconsin, Kentucky, Iowa, New York, Tennessee, Missouri, and Pennsylvania. Delegates were also present from Utah and Canada. On the whole, it is safe to assume that never in the history of America has bee culture been represented in a convention by so large an assemblage of wide-awake, intelligent, and enterprising bee-keepers.

OUTLINES OF THE PROCEEDINGS.

The Convention was called to order at 10 o'clock by A. F. Moon, President of the Michigan Bee-keepers' Association, who was elected temporary President, and M. M. Baldridge, of Illinois, temporary Secretary.

On motion of Dr. Bohrer, of Indiana, a committee of one member from each State represented, was appointed to prepare a Constitution and to nominate officers, viz.: Z. S. Richardson, of Indiana; Ezra Rood, of Michigan; D. L. Adair, of Kentucky; M. L. Dunlap, of Illinois; Aaron Benedict, of Ohio; Adam Grimm, of Wisconsin; Elisha Gallup, of Iowa; Dr. T. B. Hamlin, of Tennessee; Robert Bickford, of New York; W. D. Roberts, of Utah Territory; Daniel McIlvain, of Pennsylvania; J. L. Smith, of Missouri, and Wm. F. Clark, of Canada.

On motion of Dr. Hamlin, a committee of three was appointed to prepare subjects for discussion, viz.: Wm. T. Gibson, of Indiana; Dr. Bohrer, of Indiana, and Henry Nesbit, of Kentucky.

Pending the action of the above committees, the President addressed the Convention in regard to the objects of the same, and briefly touched upon several points respecting the management of the honey bee. A portion of the time was occupied by questions and responses from Messrs. Burbank, of Kentucky; Salisbury, of Illinois; Conklin, of Ohio; Hicks, of Indiana, and Allen, of New York.

REPORTS OF COMMITTEES.

The committee on organization reported the following

CONSTITUTION.

ARTICLE 1. *Name.*—This society shall be known as the "North American Bee-keepers' Association."

ART. 2. *Object.*—Its object shall be to promote the interests of bee culture throughout the North American Continent.

ART. 3. *Officers.*—The officers shall consist of a President, two Vice-Presidents, Secretary, Assistant Secretary, and Treasurer.

ART. 4. *Executive Committee.*—The executive committee shall consist of the officers of the Association.

ART. 5. *Election of Officers.*—All the officers of this Society shall be elected annually by ballot.

ART. 6. *Membership.*—Any person may become a member of this Association by the annual payment of one dollar to its funds.

ART. 7. *Meetings.*—The Association shall meet annually.

Entered according to Act of Congress, in the year 1870, by Samuel Wagner, in the office of the Librarian of Congress, Washington.

AMENDMENTS.

ART. 8. *Honorary Members.*—This Association may, from time to time, elect suitable persons as honorary members.

ART. 9.—This constitution may be amended, or rescinded, at any annual meeting by a two-thirds vote of all the members in attendance.

The constitution as above was adopted. The committee recommended the following as officers during the meeting :

President, A. F. Moon, Paw Paw, Mich.
Vice-President, Elisha Gallup, Orchard, Iowa.
Vice-President, Dr. G. Bohrer, Alexandria, Ind.
Secretary, M. M. Baldridge, St. Charles, Ills.,
Assistant Secretary, Wm. F. Clarke, Guelph, Ontario, Canada.
Treasurer, N. C. Mitchell, Indianapolis, Ind.

The report was accepted, and the committee discharged.

President Moon returned thanks for the honor conferred upon him, and expressed the desire that he might be the means of promoting the best interests of the Association and bee culture generally.

REPORT OF THE COMMITTEE ON TOPICS FOR DISCUSSION.

The following order of business was presented for the action of the convention.

1. Opening Address. By Dr. G. Bohrer, Alexandria, Ind.
2. The General Management of the Apiary in Spring, Summer, and Winter. By T. R. Allen, Syracuse, N. Y.
3. Foul-brood and other Bee Maladies. By Robert Bickford, Seneca Falls, N. Y.
4. The Italian Bee. By Aaron Benedict, Bennington, O.
5. Natural and Artificial Swarming and the Increase of Stocks. By Elisha Gallup, Orchard, Iowa.
6. Queen Raising. By Dr. T. B. Hamlin, Edgefield Junction, Tenn.
7. Bee Pasturage. By Wm. F. Clarke, Guelph, Canada.
8. Transferring Bees. By Dr. G. Bohrer, Alexandria, Ind.
9. The Best Method of Obtaining and Marketing Surplus Honey. By Adam Grimm, Jefferson, Wisconsin.
10. The Egyptian Bee. By N. C. Mitchell, Indianapolis.
11. Artificial Honey Comb. By Robert Bickford, Seneca Falls, New York.
12. Bee Culture in Utah. By Wm. D. Roberts, Provo City, Utah.

The above topics were taken up during the convention, but we shall not be able to give a report of the discussions. We learn, however, that they will soon be published in pamphlet form, by the executive committee, and will be sent, *free of charge*, to the members of the Association. Applications for the pamphlet should be sent to the Secretary, at St. Charles, Ill.

N. C. Mitchell read a letter from H. A. King, of New York, in which he called attention to a circular of invitation for the union of all bee-keepers in a convention soon to be held in Cincinnati, Ohio.

Mr. L. Dunlap moved to receive Mr. King's letter and place it among the records of this Association. Adopted.

Robert Bickford, who was present at the last meeting of the Northeastern Bee-keepers' Association, and is, we believe, a member of the same, was called upon to state what transpired at that meeting respecting a National Convention at Cincinnati. He replied briefly, by saying that some of the members of that Association manifested a *desire* to have the National Convention held at Cincinnati instead of at Indianapolis, but he was not aware that any one was *authorized* to call such a convention. He did not know that such a call had been made until he read it in Mr. King's paper. It was his belief that Mr. King must have made the call *on his own responsibility.*

Wm. F. Clarke moved that the chair appoint a committee of three to consider the subject matter of Mr. King's letter, and to report their investigations in writing. Thereupon the chair appointed, as this committee, Messrs. Clarke, Gibson and Bohrer. A. Salisbury, of Illinois, and Dr. Hamlin, of Tennessee, were added to that committee, on motion of Mr. Dunlap.

REPORT OF COMMITTEE.

At the proper time, the following report was presented to the convention :

The committee to whom was referred the communication from H. A. King to N. C. Mitchell, relating to a bond of union among American bee-keepers, have had the same under consideration, and desire to submit the following resolution for the action of the Convention :

Resolved, That, inasmuch as we have been unable to find anything in the conduct of parties concerned in the call for this convention calculated to prevent a bond of perfect union among the bee-keepers of America, we hereby extend a cordial invitation to Mr. King, and to all others, to attend the next meeting of this Association, and identify themselves with its history and operations.

Wm. F. Clark moved to adopt the report, and to appoint three delegates to represent this Association in the Cincinnati convention, and effect a reconciliation, if possible. The motion prevailed, whereupon L. C. Francis, of Illinois, Dr. G. Bohrer, of Indiana, and Elisha Gallup, of Iowa, were appointed delegates.

We now desire to add that if Mr. King, *or his representatives*, had submitted a plan to the Association *on which to base a union*, it is very probable that different measures would have been adopted. It occurs to us that the ship was in troubled waters, with no pilot to guide her, for which the Convention was not responsible.

Mr. Dunlap moved the appointment of a committee of three to examine the bee-hives on exhibition in the city, and to report to the convention the particular excellencies or advantages of each. He did not desire the committee to report in favor of any hive, but simply to inform the Association as to the peculiar features in each.

Ezra Rood, of Michigan, could not imagine what good such a report would do. He would prefer to have a definite report in favor of the best hive.

Messrs. Wright and Smith would prefer to have the hives, machines, &c., brought before the Convention and exhibited, with brief explanations. As this proposition seemed to meet the wishes of the Association, Mr. Dunlap withdrew his motion and the following was substituted :

Resolved, That if any member of the Convention has any article of value to the bee-keepers, he be allowed five minutes for exhibiting and explaining the same, beginning at ten o'clock, A. M., December 22d. Carried.

The following is a complete list of the articles exhibited, but for the want of room we will have to omit their respective names and explanations :

Eighteen movable comb hives; three cages for fertilizing queens in confinement; three queen nurseries ; two feeders for supplying bees with honey ; one trap for catching queens and drones when leaving the hives; one wax extractor, and four machines for extracting honey from comb.

The exhibitions and explanations consumed more time than was at first anticipated. We would therefore suggest, that in case the matter be taken up again that a day be set apart expressly for that purpose. This would give exhibitors ample time to show and explain their invention and the Association an opportunity to ask questions.

At the close of the hive exhibition, the President announced that the hour fixed upon by the Convention had arrived for the election of officers for the ensuing year.

The President appointed the Secretaries, Messrs. Baldridge and Clarke, as tellers.

On motion of R. C. Otis, of Wisconsin, the Rev. Mr. Langstroth was made an honorary member of the Association.

In view of what Mr. Langstroth has already done in promoting the interests of bee-keeping, not only in this but in other countries by the introduction of an improved system of bee management, Mr. Otis moved that Rev. L. L. Langstroth, of Oxford, Ohio, be crowned with the honor of being the President of the North American Bee-keepers' Association for the ensuing year.

The motion was warmly seconded, and there being no other nomination, Mr. M. L. Dunlap moved that President Moon be authorized to cast the unanimous vote of the Association.

The motion prevailed, and the tellers announced the result of the ballot. On motion the Secretary was instructed to notify Mr. Langstroth of his election.

On motion of Mr. W. F. Clarke, the Constitution was amended so as to provide for three additional Vice Presidents, making the number five instead of two.

The following officers were unanimously elected :

Vice Presidents—Wm. F. Clark, Guelph, Canada ; Dr. T. B. Hamlin, Edgefield Junction, Tenn. ; Robert Bickford. Seneca Falls, New York ; Elisha Gallup, Orchard, Iowa ; A. F. Moon, Paw Paw, Mich.

Secretary—M. M. Baldwin, St. Charles, Ill.

Treasurer—N. C. Mitchell, Indianapolis, Ind.

The following resolutions were adopted :

By M. L. Dunlap, of Champaign, Ill. :

1. *Resolved*, That the Executive Committee be instructed to publish the proceedings of this Association in pamphlet form at the earliest practicable day, *provided the funds will warrant*, and that the Secretary forward a copy to each member as soon as published.

By Robert Bickford, of New York :

2. *Resolved*, That the treasurer be instructed to pay the stenographer, who has been reporting the proceedings of this Association, the sum of twenty dollars, his demand as compensation for two days' services.

3. *Resolved*, That the Stenographer's Report now belongs exclusively to the Association, that it shall remain in the possession of the reporter, and that it shall not be accessible to any one except the Executive Committee, unless by special permission from said Committee.

By Ezra Rood, of Wayne, Mich. :

4. *Resolved*, That the Executive Committee be instructed to select from the Stenographer's Report whatever they may deem proper for publication, and, if necessary, to use the credit of this Association in publishing the pamphlet; in short, to have full control of the subject matter.

[The officers of the Association appointed the Secretary, Assistant Secretary, and Treasurer as the Publishing Committee. This action is an important one, as it will enable the Publishing Committee to do business with less friction of machinery.]

By Wm. R. King, of Illinois :

5. *Resolved*, That the Executive Committee be instructed to memorialize Congress and the Provincial Parliament of Canada, asking for an appropriation of money to be used for promoting the objects of the North American Bee-Keepers' Association, and that this Committee be empowered to sign the memorial in their official capacity.

By Ezra Rood, of Michigan :

6. *Resolved*, That a vote of thanks be given to the Governor, State Librarian, and the Secretary of the Board of Agriculture, for the free use of the rooms occupied by this Association in the House of Representative.

7. *Resolved*, That the Treasurer be instructed to pay the janitor the sum of ten dollars as compensation for services rendered in lighting the house and attending the fires during the sessions of this Associations.

8. *Resolved*, That a vote of thanks be given to the following railroads for granting *half fare* tickets to the members of this Convention :

(1) Cleveland, Columbus, Cincinnati, and In-

dianapolis; (2) Cincinnati and Indianapolis Junction; (3) Cincinnati, Muncie and Fort Wayne; (4) Fort Wayne, Jackson and Saginaw; (5) Indianapolis, Bloomington and Western; (6) Lafayette and Cincinnati; (7) Terre Haute, Vandalia and St. Louis; (8) Indianapolis and St. Louis; (9) and New Albany, Salem and Chicago.

Messrs. Clarke, Rood and King were appointed a committee to propose suitable persons as honorary members.

The following were admitted as honorary members:

Samuel Wagner, editor of the American Bee Journal, Washington, D. C.

M. Quinby, author of "Mysteries of Bee-Keeping," St. Johnsville, New York.

Ellen S. Tupper, Brighton, Iowa.

Rev. John Dzierzon, Karlsmarkt, Lower Siesia, Germany.

A. Schmidt, Ed. Bienenzeitung, Eichstadt, Germany.

L. Gerster, Inventor of Wax-Extractor, Berne, Switzerland.

T. W. Woodbury, Mount Radford, Exeter, England.

Major Von Hruschka, Germany, Inventor of Mel-Extractor.

President Moon announced that he had in his possession a telegram addressed to him as President of the Convention, which, by request of Mr. Otis, he would read. It was as follows:

New York, *Dec.* 22, 11.30 A. M., 1870.

R. C. Otis, of Wisconsin, is publicly making many false statements to defeat a union at Cincinnati. He is not a true friend to Mr. Langstroth. You are invited to join your brethren in union in Cincinnati. I pledge my sacred honor that no one will regret his vote. Please answer by telegraph; charges will be paid here.

H. A. KING, 240 Broadway.

On motion of Dr. A. V. Conklin, of Ohio, President Moon was instructed to telegraph the following reply to Mr. King:

R. C. Otis has said nothing in this convention against the Cincinnati convention; but on the contrary has labored earnestly for the union of the two conventions. Besides, he was the mover of Rev. L. L. Langstroth as president of this Association for the ensuing year, whose election was unanimous.

On motion it was resolved to hold the next meeting of the Association at Cleveland, Ohio, commencing at nine o'clock, A. M., on the first Wednesday in December, 1871.

On motion of M. M. Baldridge, the Association adjourned to meet again in accordance with the above resolution.

LETTER TO REV. L. L. LANGSTROTH.

HALL OF HOUSE OF REPRESENTATIVES,
INDIANAPOLIS, INDIANA,
Dec. 22, 1870.

REV. L. L. LANGSTROTH, OXFORD, OHIO:

As Secretary, it becomes my duty and pleasure to inform you that, on motion of R. C. Otis, of Wisconsin, you were to-day unanimously elected President of the North American Bee-keepers' Association for the ensuing year.

Please advise me at your earliest convenience what your pleasure is respecting the honor that has thus been conferred upon you.

Respectfully yours,
M. M. BALDRIDGE.
Sec'y North Am. Bee-Keepers' Asso'n.

MR. LANGSTROTH'S REPLY.

OXFORD, OHIO, *Dec.* 26, 1870.

M. M. BALDRIDGE, *Sec. N. Amer. Bee-keepers' Association, St. Charles, Ill.:*

DEAR SIR:—In accepting the honor conferred on me by the North American Bee-keepers' Association, I desire to express my thanks for the kind feelings which prompted their choice.

Hoping that the interests of practical and scientific bee-keeping may be greatly advanced by your organization, I am yours truly,

L. L. LANGSTROTH.

[For the American Bee Journal.]

Novice.

HURRAH FOR BEES, ONCE MORE, AND 1871!

DEAR BEE JOURNAL, (readers and all,) Christmas is over, and we are moved into our new establishment, which the bees helped to build, and which, by the way, is so much better and more convenient than the old one, that our "better half" suggested that it was fortunate for us that the old one did burn up; and if the subject had any bearing on bees, we would tell you of the "Continental Windmill" that spreads its white wings over us, and makes the machinery with which we are filling our building fairly "purr-r-r," as some friend expresses it; and do you know that we are looking forward lovingly to the time when we shall have got our work ahead, so that we can set up some nice little buzz saws, and make that same "jolly" old windmill cut the clear pine lumber for some *Langstroth* bee hives that will go together like a Waltham Watch, even if the frames should, like Greeley turnips, cost a dollar a piece.

Our bees and bee house at this date, January 10th, are as quiet and orderly as we could wish; and we are inclined to think that the fact that the house and saw dust are now perfectly dry is quite an advantage over last year.

There are so many items in the January number that we should wish to touch on that we will, with permission from Mr. Benedict, adopt his style of "running comments."

First we have "variations in weight of a colony," an article right in a field we have been experimenting in so far that we have already provided a pair of scales to set a hive on next summer, that we may observe every ounce of variation all day long. "Won't that be jolly?" Just think of a report from Novice of a pound of honey in forty minutes or thereabouts! for we had forty-four pounds in three days, and we really think there were parts of the day when they did that or more. Just before a thunder shower, for instance, have our fellow bee-keepers ever observed the scrambling to get in? Gorizzuti does not seem to have had results equal to ours.

We cannot tell how intensely interesting we found the article on "Artificial Honey Comb" better than by remarking that we have a pair of plates five or six inches across that will make impressions which the bees used readily as the basis for cells.

We are full of enthusiasm with the idea of being able, before the season opens, of supplying not only our hives, but also our neighbors, with just such worked comb foundations as Mr. Bickford mentions having seen, unless our editor should, on second thought, consider it unwise to let Novice loose with such a machine.

We won't touch the "Hive Controversy" for fear we might get a rap across the knuckles, or some worse place. We really should be afraid to have Mr. Puckett pick us to pieces, unless he would adhere a little closer to the text and be a little more courteous in his manner.

We really had hoped that Mr. Thomas had sold his hive all out at some *price* or other, (we do not mean the revolvable and reversible chap,) and had got ready to give us something good, as he is capable of and used to do. Please, Mr. Thomas, don't write about "my hive" any more. We will grant that if it be made shallow it will be a Thomas hive still; but then Langstroth's would be an infringement on it; and would not Langstroth have to pay for the right to sell *his?* We think he would, as we know he would never trespass on the rights of others.

"Gallup in a fix." Is it possible? And who would have thought that Gallup would enjoy all that trouble, and wouldn't shut the bees up? Was it the remnants of that same despotism that prompted him to pound the poor cat on the head? By the way, we shall have to pound Mr. Gallup on his *own* reverend head, too, if we do not hear from him more frequently. He writes for other folks and about things, especially when they are "good for bees," but "nary" word for the old stand-by. We don't even know what great results he achieved this last season, only by crude reports. Does he forget old friends, or are they not as profitable? Or does he want to be pounded more? If so, let's "hit him hard."

Now, if we stop as long as this at every article, we shall never get through, so perhaps we had better skip over to those "Questions for Novice."

Question 1st. Yes, since using the two-story hive, the latter plan has superseded the former. In the height of the season we leave the hive open, and, as we do not give the bees time to cap the cells, do very little uncapping; and the same with smoke. We never think of using any when honey is coming in rapidly. Smoke is the too "much bother." Later, when black robbers bother us, the surest way we have tried is to operate by moonlight. Romantic, etc., you know.

Question 4th. Yes. In June and July we should empty every frame that had honey in it, of course.

Question 5th. We do not allow any crack or crevice for bees to get under the hives. We had much trouble by their clustering under them, queen and all; and in one case they staid several days, and the more we brushed them out the more they would go back, until we banked saw dust around every hive completely.

Question 6th. Yes, we too get fire in the saw dust, but are going to learn to be careful. Shall nail a strip of board on each side of every hive before we put them out in the spring, so that each shall stand on a sort of box, bottom upward. A friend paints the bottom of the hive and sets it right on a heap of saw dust.

"Top-storing hives behind the age!" Why, bless your soul, our excellent friend Tyro and a thousand others, what *are* we using but *side*-storing hives, far ahead of Quinby's, Hazen's, Alley's, or anybody else's! Don't you suppose our three tons of honey from forty-six stocks was stored at the side? Empty all the honey out of any hive, and don't the bees store more in the empty frames at the side of the brood? Don't everybody that writes a bee book, copied from Langstroth, say, with great candor, that bees will store fifty to one hundred per cent. more honey in the body of the hive than in boxes (on top?) Now, listen all. If you take half of the combs, brood, and honey, in a Langstroth hive, and put them in an upper story, (which we always do when the season is ready for it and we wish the bees to work above,) and fill out the hive with empty frames, where else *can* the bees work except *at the side?* If you want honey in the comb, *cut it out of these frames.* Where is the use of old-fashioned boxes?

Yes, we too have cross colonies and gentle colonies, both pure, as we think, and so they remain as long as the queen lives. And we do not know any remedy, unless it is to get Gallup to fix them off all alike *gentle*, for a consideration.

"Mr. Baldridge's mystery unsolved" is a laughable mistake, we think, from his not having read the Journal very carefully. The correspondent he quotes from only wished to know how he could get a frame in the top story, when laid flat on a board, to allow the bees to repair a broken comb, as we had directed. Our good friend, Mr. Price, has certainly stopped revolving in his Part IV. wrong side uppermost. We should advise giving him a friendly turn until he came right, and then *fasten him so.* He does not believe the Italians "will prove any more prolific" than the black bees. Didn't he revolve them backward? We have read all his articles carefully, and also the other side of the question. We are not sure but his plan would be a cheap one to produce queen cells. We presume our queens will be allowed to be good ones, and they are all *artificial*, every one. We do think that some queens that we have raised were worthless, because they were raised in a nucleus with so few bees that they were not kept warm enough, and had not plenty of food. But with a pint of bees, in warm weather, we think our chance for a fine queen would be equal to any. We might here confess that no idea of profit was ever sufficient to induce us to destroy a pure queen, so that we have many now that were two years old last June; yet we can hardly say that they were any less prolific—artificial as they could well be, the way we "*tinkered*" them two years ago. Yet Mr. Price thinks his plan would give us queens worth several times as much. Well, we hope so, and think we will try his plan a little at least; and should they prove so, we will try and bear it. And we now tender our sincere thanks to Mr. Price and all others who are laboring for *our* Journal disinterestedly.

Mr. Alley's and Mr. Hubbard's generous offers make us feel as if we would like to give something too; but on this same principle, that we could not kill our queens, we could not bear to give them away, nor sell them. So we shall have to content ourselves with directing every one who comes to us for information to the old standard Bee Journal, and so, Mr. Editor, we enclose in this a few. a very few, two dollar bills and names to correspond therewith. If we succeed in making our bees do as well in 1871 as we did in 1870. people about here will begin to think it is a certain thing, and that more of them can risk two dollars each.

Mr. Editor, will you please to say to any who wonder why Novice does not answer their inquiries that he is obliged to write these articles after ten o'clock at night, and many of these inquiries would require a longer article than this to answer them fully.

Now, we too have a brilliant conception which we are going to throw out freely, without charge, to a discriminating bee-keeping public. It is so near twelve o'clock that we will simply give the ideas in their crude state. Those beekeepers who contemplate making maple sugar syrup should simply distribute their beehives, instead of tap pails, about among the sugar maples, with spiles arranged so that the sap drops into a "Novice Bee-feeder" in the upper part of the hive; and at the end of the season go around with the mel-extractor and gather in honey, which can be labeled "Maple Tree Honey." To any person sending us one jar of such honey (post paid) we will return deed of individual right, etc. to the above process. Be very careful to direct carefully and plainly to NOVICE.

[For the American Bee Journal.]

Artificial Combs.

"If thou hast a truth to utter, speak, and leave the rest to God."

To get at facts we must admit free discussion. Facts are more important than favors. To reach the exact value, we must compare, add, subtract, till the actual result appears.

Whoever brings before the public a new article of manufacture must expect and ought to solicit criticism, till all the points are brought out, independent of theory. To oppose this, would seem to argue a want of confidence in the merits of a thing.

I am pleased with Mr. Bickford's remarks on page 147 of the Bee Journal, relative to Mr. Wagner's foundation for combs, as they call out whatever experience may have been had on the subject.

Twenty-five or more years since I inquired of a bee-keeper how he managed to get the combs straight in his boxes, without guide combs. They were scarce with me that summer. He told me that if a line of melted beeswax was drawn across the top of the box, the bees would follow exactly every line. They failed to do so. I applied to a young mechanic to aid me in making a foundation of wax, to serve as a guide and a beginning for combs, when stuck in the top of my surplus boxes. The result proved a small sheet—rather too thick, I think, for surplus boxes—probably like Mr. Wagner's, perhaps not quite so neatly made. It was accepted by the bees, and they finished cells on them. Not dreaming that I had anything of importance, nothing further was done, or thought of till after 1865, when a Mr. Steele—I think—visited me from Jersey city, N. J., with some specimens of foundations, about two inches square, requesting me to try them. I thought them too small to be of any account, and told him if he would furnish me with sheets six inches square to fill a hive, I would use them and report. I knew by my first experiment that dies for a large sheet could be cheaply made. A few days after his return home, I received a package of fifteen sheets. six inches square. The Langstroth frames that I was then using were 11 by 18, and a hive held eight. I suspended three of these sheets in the top of a frame, using five such frames; the other three being empty. The hive was arranged for the swarm, by putting the five furnished frames in the middle, two empty ones on one side, and one on the other. A medium sized swarm was introduced, with queen's wing clipped to prevent it leaving—it was swarming season. Instead of commencing labor on the foundations, where it would seem almost compulsory; they took the two empty frames, next the side of the hive, and filled them first. The empty frame from the other side was then put with these two, and was also filled before a cell was built on those foundations. The bees now needed more cells, and made them on the lower edge of the foundation first, and then gradually worked upward, making cells as marked by the dies. This experiment proves[*] that when left to the bees, they prefer to make their own foundations, even in a very cramped position, when they had only four or five inches above the bottom of the hive. And that they only used them when they could build in no other available spot. More than half the sheets were left untouched. They were never offered to the bees afterwards. Was I right in considering them unprofitable? I did not consider it necessary to report this, as no one seemed much interested in the experiment. I presumed it had been tried by others, with similar results, else why have we heard so little of it since? I should not have alluded to it now, had not Mr. Bickford's article been calculated to raise hopes that might only turn out as did my experiment.* Mr. B. judges theoretically. I am culpable, if I do not give facts when I have them.

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[*] The experiment proves just nothing, except that it failed under Mr Quinby's manipulations. Mr. Q. does not seem to be aware that for success in such a case, you must not only have a good implement, but also know just *how*, and *where*, and *when* to use it. The most expert sempstress would make small headway in stitching with the best sewing machine, unless instructed how to use it; and the electric telegraph itself would prove to be a miserable failure in the hands of an untaught Indian.—Ed.

Mr Bickford, speaking of the foundations, says that they *cannot* break down by heat, or crack by cold; nor can they be broken in the honey extractor. May I ask of what they are made? M. QUINBY.

St. Johnsville, N. Y., Jan. 10, 1871.

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* This caution comes in good season, but is hardly needed in this case, as the comb foundations will not be sold or offered for sale, till fully tested —Ed.

[For the American Bee Journal.]

Honey Season in Central New York.

The spring of 1870 opened with fine prospects for bee-keepers, in our vicinity, who had any stocks "left over" from the winter of 1869. During that winter, owing to the scarcity of honey the previous summer, those who did not feed their bees liberally in the fall, lost many stocks, and some lost all they had. My apiary went into winter quarters, on their summer stands, with their cotton batting comforters over them, twenty-seven strong, or rather twenty strong, and seven weak, all in shallow Langstroth hives. All came through in good condition. except that five colonies were found to be queenless in the spring. Not a comb was mouldy, and very few dead bees were found, even in the weak and queenless colonies. I built up all the weak and queenless stocks with brood from the stronger ones, so that several of them became strong enough to divide later in the season. I used the extractor only on the five queenless colonies, and took from them one hundred and seventy-six (176) pounds of nice new honey, before they all succeeded in getting laying queens. The honey was obtained mainly from fruit tree and dandelion blossoms, which yielded honey more abundantly last spring than I ever knew them to do before—enabling all my colonies to fill their hives with brood and honey, even casting several swarms as early as May 19 and 20, some two weeks before white clover began to bloom.

Clover bloomed abundantly and yielded honey freely until about July 1st, enabling some stocks to store in boxes eighty to ninety pounds of beautiful honey. From this date the supply of honey gradually lessened, in consequence of the drought, and ceased entirely July 14 and 15. No box honey was made after that, except that a few cells of ready made comb were filled with buckwheat honey—not five pounds in all my hives together, and this exclusively in hives of black bees; the Italians and hybrids meanwhile gathering small quantities of light colored honey.

One remarkable feature in my apiary, this season, was the unequal labor performed by different colonies, although seemingly in precisely similar condition in the spring; some colonies yielding as above stated from eighty to ninety pounds, and others none at all. The two colonies yielding the most surplus had black queens that had mated with Italian drones, and were each three years old. These two did not swarm, although full of bees all the summer. From one of them, however, I made an artificial swarm quite late in the season, by removal and giving the new swarm a fertile queen and two or three old combs. Both of these colonies are now in as good condition as the other that was not removed. The next best yield was from a pure black colony that made about 70 pounds of box honey, cast an immense swarm, and afterwards two small ones, which, put together, made a respectable colony. The first swarm from this old colony filled its hive and gave about forty pounds of surplus honey, which was more than any other new swarm gave, although several hybrid swarms were cast two or three weeks earlier. Observation teaches me that the very earliest swarms do not accomplish so much as those that come off a little later, for the reason probably that the later ones are generally larger. I had only one pure Italian colony, and used its brood freely for raising queens, and can not, therefore, say how much it would have done had it been left to itself, as others were. Its queen seemed very prolific, however.

To sum up, I would say that the season, in consequence of its sudden close, notwithstanding its promising opening, has been only a moderate one in this vicinity. I obtained in all about eight hundred (800) pounds of honey, selling it at various prices, at a total of fully three hundred (300) dollars—some of it (350lbs) as high as fifty cents a pound, box and all. This consisted of selected boxes, weighing 3½lbs per box, gross, containing a single comb built in boxes 2½ inches wide, 10¼ inches long, and 4½ inches high, with glass sides. The dealer who bought it wanted to know if fifty cents per pound was not high for honey! I told him, to be sure it was for some honey, but I thought the style in which this was put up (I had a sample with me) made it worth all I asked for it. He finally thought so too, and ordered it sent on. The style of honey makes half its value in market, and I have observed it to be a general rule that the more you ask for any article you have to sell, the more desirable it seems to be in the eyes of the purchaser, especially if he has plenty of money. Let us keep up the price of honey. I think we ought to ask as much for nice extracted honey as for box honey, perhaps a little more, for it is certainly nicer for use. If we offer it for less, consumers will think it not so good. I sold some nice quart jars of extracted honey this summer for $1.50 each That was all I dared ask; still my grocer who sold it inquired afterwards if I had any more of *that honey in bottles*, and seemed disappointed when I was obliged to answer no R. BICKFORD.

Seneca Falls, N. Y., Nov. 22, 1870.

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Of the many kinds of honey noticed by travelers and naturalists, the *green* kind furnished to Western India by the Island of Réunion, the produce of an *Apis* indigenous to Madagascar, but which has been naturalized in the French island and also in the Mauritius, is perhaps the most remarkable.

[For the American Bee Journal.]

Bee Season at Birmingham, Iowa.

MR. EDITOR:—Here is a short statement of the bee season here. We had a heavy frost about the last of March that injured and nearly destroyed fruit blossoms of all kinds, though some bloom appeared from which the bees obtained honey enough to breed quite rapidly. White clover bloomed in the latter part of May, some what earlier than usual, but gave no more honey than the fruit blossoms. In the latter part of June basswood blossomed, and gave a good supply of honey At the same time we had a partial honey dew; that is, the leaves of some trees were covered with it while others had none. My bees did not touch this honey dew till the supply of basswood honey was exhausted. Then they worked on it in the mornings and evenings, collecting at an average about three pounds a day. We had no supply of honey from other sources till about the 15th of September, when, for a week, honey was obtained from late buckwheat and fall flowers—a strong stock obtaining, from this latter source, about forty pounds, or quite enough to carry them through the winter in the open air. That closes the season, and I would say it was an unfavorable one for bees in this locality. There was nearly no rain here from the time spring opened till the first week in August, except a little shower or two, scarcely enough to wet the ground an inch in depth.

Improved bee-keeping is making rapid strides here. Langstroth hives, honey extractors, and the American Bee Journal, are all the go now. Best of all, many intelligent farmers of this neighborhood have come to see my bees and my honey machine, the last season, and are taking a decided interest in bee-keeping. I do not see why they should not succeed at bee-keeping as well as at farming; and if they do, old Jefferson county will be flowing with honey in a short time, as it is now with cattle, hogs, wheat, corn, &c.

Here is a statement of what my bees have done. An increase at the rate of eleven new stocks to fourteen old ones wintered. Average yield of honey per stock wintered last season, seventy-three (73) pounds. My best colony gave me one hundred and thirty (130) pounds surplus, and two swarms. My poorest gave twenty (20) pounds surplus (strained), and no swarm.

An artificial swarm, made on the 15th of June, gave me one hundred and three (103) pounds surplus, not strained. I put it in a two-story Langstroth hive, with frames and empty combs.

All that I want is a place to sell my honey—where I can get the *money* for it, say twenty or twenty-five cents per pound for strained honey. Of course I will warrant it as represented, and my warrant is good for something too. If our bee friends will find me a market at the above rates, I think I would produce 1,500 or 2,000 pounds next season; but till I find such a market, I must lag behind. Strained honey sold this season at twenty cents per pound, *trade*.

Birmingham, Iowa. JOHN LOCKE.

[For the American Bee Journal.]

The Season in Northern Iowa.

Our honey season, or season for bees, from the time spring opened up to the first of July, could not have been better, yet we have not the white clover in sufficient quantity to get much surplus from it. Our main dependence for surplus in summer, is the basswood. This season it blossomed early in June, and yielded honey for sixteen days in succession, and in immense quantities. July was excessively dry, and part of the time furnished no honey whatever. In August we had honey dew three weeks in succession, yet the weather was so excessively dry that the bees could only gather from daybreak until about nine or ten o'clock, and then from an hour before dark they would work on it again till it grew so dark that many of them could not see to get back to their hives This supply started them to breeding so rapidly that when the fall rains came on we had excellent honey harvest again through September; and now those bee-keepers who had no honey extractor, have, as a rule, too much honey and too few bees for profit, unless they get rid of some of that surplus in the spring. Their queens will be restricted in their breeding, and their stocks will not do as well as they would with less honey. My bees consumed all their honey dew honey in rearing brood; yet in some localities considerable quantities were stored. I saw some extracted honey dew honey in a neighboring county. It was as black as ink, and black ink at that. I should think it would not be good for winter food for bees.

The honey extractor is a great institution; for we can now extract inferior honey, and save it to feed in summer or spring; or, in other words, we can manufacture it into bees, and have those bees on hand to gather a better quality.

ELISHA GALLUP.

Jan. 6, 1871.

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[For the American Bee Journal.]

Wanted,

By a Reader of the Journal.

Plain directions for making a non-patented honey extractor. I have no objections to buying of those that manufacture either patented or non-patented machines; but I do not like to pay freight on them, five hundred or one thousand miles, when we have mechanics and material close at hand.

E. S. FOWLER

☞ Pretty full directions are given in the back volumes of the Journal.

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THE investigation of the works of the Almighty leads directly to the steps of the altar of religion, and there we find the study of the works confirmed by the precepts of the Word, both inculcating, humble reverence and fervent love.—*Shuckard.*

[For the American Bee Journal.]

Bees during Drouth in Illinois.

Mr. Editor.—With your permission, I would like to give the readers of the Journal a brief history of my summer operations. The last season was an unusually unfavorable one, owing to the long continued drouth that prevailed in this section of country. It did not rain here from the 1st of April until the 13th of July. On the 20th of June there was not a clover blossom nor any other flower to be seen. It was dry enough to burn, and as I do not live within six miles of timber land, I must say that I did well for a beginner. It must be remembered that the weather was so dry and hot that the bees could not breed, and there were consequently very few swarms in any part of this section. I made five artificial swarms, thus making the whole number of my stocks forty-five. Before the 1st of August I got two hundred pounds of clover honey, and in August and September I got twenty-eight hundred pounds—twenty-three hundred pounds of box honey, and five hundred pounds of extracted honey.

My buckwheat seed lay in the ground five weeks before it came up. It and my Alsike clover came into bloom in September, and the bees made a good deal of honey from these sources.

There is a bee-man living twenty miles west of me, whom I saw three weeks ago. He has not any artificial pasture, and says he did not get one pound of honey. He is afraid his bees will starve this winter, for they did not gather enough to winter on.

When I commenced the bee business, I argued that if bees could do well on natural pasturage, they certainly could do better on well prepared artificial pasture, and I think no apiarian can gain the highest point of success in bee culture, unless he has plenty of artificial pasture for his stocks. My greatest difficulty is to winter my bees well. It is in fact my only trouble. With best wishes for the Bee Journal and its readers, I am, &c. R. Miller.

Rochelle, Illinois.

[For the American Bee Journal.]

Partial Success.

Friend Wagner, when I commenced my experiments in bee-keeping in 1860, it was with a conviction that one hundred (100) pounds of surplus might be secured from one hive. This was about the height of my anticipations. Within three years I secured this result.

Not satisfied with this result, in my continued experiments, I made some important improvements in my hive, as I imagined, and in 1867 secured one hundred and seventy-four (174) pounds in one hive. In 1870, the past season, I have secured two hundred (200) pounds from one hive—almost the whole of it from white clover. I think they have in the breeding department of their hive ample stores for the winter.

Although I think this is doing well—tolerably well—in rather a poor section of country for honey, for my neighbor near by, secured in old fashioned hives, but one box full; and others in the vicinity have very ordinary returns in surplus honey; yet I am obliged to consider this as only *partial success.*

It is suggestive of improvements; and I am now inclined, after having passed four score years, to try for three hundred (300) pounds from one hive, if a few years more are added to my four score years already granted.

My experiments thus far have resulted in certain conclusions, which I regard as important to the greatest success.

1. A colony of bees in a hive giving room for storing all the honey gathered by the whole colony for the season, will not throw out a swarm unless from extreme heat, the presence of enemies, or when, from other cause, the dwelling becomes objectionable.

2. A colony in a non-swarming hive, which has no disposition to swarm, will secure a much larger amount of surplus, than a colony in the same class of hive, which casts swarms, or has the disposition to swarm. As to the amount of honey, we refer to the 100, 174 and 200 pounds already mentioned. In the past season I have had from five colonies of non-swarmers 629 lbs. In 1868, from two hives, one 105 lbs. and another 147 lbs. In this season, I had fifteen colonies in the same class of large hives as those that gave 629 lbs., each of which fifteen gave swarms. Wishing to secure new swarms for an experiment, I shaded but a small part of my hives the past season. The result was, that fifteen of my twenty colonies gave swarms. The fifteen old colonies with their fifteen new swarms, gave four hundred and fifty-four (454) pounds of surplus; 629 lbs. from the non-swarmers, to 454 lbs. of surplus from fifteen swarmers and their swarms. The average from the hives that gave no swarms, is 126 lbs. nearly. The average of the fifteen that gave swarms, including the surplus given by their swarms, is 30¼ lbs.

3. Colonies in hives of 2000 cubic inches, with only small boxes upon the top, that give swarms, will not, so far as my observation goes, average half as much surplus per colony, as colonies in the large hives. So far as my experience goes, they have not averaged one-fourth as much. Mr. Quinby, in his work, estimates the average at $2, at twenty-five cents per pound. This would be eight pounds. At twenty cents it would be ten pounds.

4. Every farmer and horticulturist, in gathering his harvest of grain or fruits, desires to expend as small a portion of it as possible in the cost of gathering. How does this principle apply to the case as before stated? Every colony of bees, old colony or new swarm, will require sixty pounds of honey for consumption in the breeding season and in wintering. At ten pounds per colony, it will require sixty-three old, and their say sixty-two new colonies. For their breeding and wintering 7,500 lbs. will be required; and they give in surplus 629 lbs It will be seen then, that by this system, in this small hive, the keeper secures one-thirteenth of his product, and his harvesters consume twelve-thirteenths. To secure 629 lbs. by the large hives

that swarmed, will require twenty-one old colonies, and twenty-one new swarms, nearly. Forty-two colonies old and new, will require for breeding and wintering, 2,520 lbs. They give in surplus 629 lbs. They consume four-fifths of the product of the field, and give the bee-keeper one-fifth in surplus Five colonies that give no swarm, give 629 lbs. in surplus. Five times sixty is 300 lbs. Less than one-third of the product of the field is consumed by the bees, and 629 lbs., or more than two-thirds of the product of the field, is given in surplus to the keeper.

I confess, Mr. Editor, I prefer two-thirds of the product of the honey in the flowers spread around me, to one-thirteenth of it. Those who are satisfied with one-thirteenth can continue the old systen and small hives. Let it not be supposed that 125 colonies of non-swarmers could find summer and winter's supply for themselves, and give an average of 126 lbs. each, in a field where 125 swarms are sustained, and secure ten pounds each. 125 non-swarmers would require a field furnishing 23,250 lbs. of honey, and 125 swarmers but 8,126 lbs. Sixty-three old colonies and sixty-two new swarms, in small hives, would require only 8,126 lbs. Forty-three colonies of non-swarmers would gather the field, giving 5,546 lbs. in surplus, instead of 626 lbs., supposing they did as well as my five have done this year. But alarm at the expense deters many in the pursuit. Let us look at this subject one moment. Ten swarmers at ten pounds each will give one hundred pounds of surplus. The

ten colonies will cost, at $5 each . . .	$50 00
10 hives at $1 each	10 00
Amount of outlay	$60 00
Interest on $60	$ 4 20
Hives lasting ten years, one-twentieth .	50
Bees may average four years in swarming hives, per hive, ...	12 50
Cost of 100 lbs. in swarming hives .	$17 20

Cost per pound 17.2 cents.

In addition to all, the care of ten colonies of bees.

One non-swarming hive will cost without boxes	$6 00
One colony of bees	5 00
Amount of outlay	$11 00
One-twentieth cost of hive	$00 30
One-fourth cost of swarm	1 25
Interest on outlay	77
Cost of 126 lbs. of honey, in non-swarming hive	$2 32

Cost per pound 1 cent 8½ mills, nearly; or we may say two cents per pound, against 17 cents in the swarmer hive.

5. The care taken and expense incurred in the use of the two classes of hives is worthy of consideration. The expense of twelve swarmer hives must exceed that of one non-swarmer hive, and one swarm of bees. The expense must nearly equal twelve to one. If we reckon the expense of time and new hives, it would probably be twenty to one. A farmer with a hive of bees in a shaded retired place, that would require little care and attention, except to put the surplus boxes in place in April and remove them when filled, supplying empty boxes in place of the full ones, securing from 100 to 200 pounds of surplus annually, would find this very different from managing his swarmers until they increased to overstocking his field, and a large portion, and sometimes all of them, perish from starvation. But I did not commence to write a volume.

I will add, my success has been partial. When I reach a point where, by the construction of my hive I can perfectly control their increase, having them swarm or not, as I wish, without confining the queen, or searching for and cutting out queen cells, or practising any violence upon the colony, and secure an average all through of 125 lbs. of surplus, if some of them have to go as high as three hundred pounds, I think I will call it satisfactory, if only partial success.

If any one wishes for further information, I will send a circular on receipt of their address and post office stamp.

Jasper Hazen.

Albany, N. Y.

[For the American Bee Journal.]

New Year, 1871.

Dear Bee Journal:—It is customary for bee-keepers to relate in the Journal their experience, success or failure; yet I do not see that there is any foolishness in stating what I propose to do in the year 1871. Possibly some one may give me a useful hint, or better light and knowledge, and that is what we are after. The year 1870 has given me a start with frame hives, of which I have four different kinds. Three of them I will reject, and stick to the one described in my last article on page 84 of the current volume. The frame represented on said page has a fault; the iron pin must be used as a nail to nail the two sticks together near the top.

Some years ago I intended to make an apiary, 100 feet long in a straight row; but some experienced bee-keeper dissuaded me, saying it was against progress. Accordingly, I placed my hives, forty-five in number, in the open air, in such a manner that they represented a miniature village, with a large Quinby hive in the middle, with a box hive thereon, and a small nucleus hive on top, church steeple fashion. One-half of them are common bee gums, the other half are frame hives. My honey machine stands in a room in the house, and the bee yard is very near, so that distance produces no inconvenience in the honey operations. I begin by taking off the honey board, then loosen the frames, taking them out one by one, shaking off the bees, replacing three or four empty ones instead. All this is the work of a very few minutes. In the beginning all goes smoothly; but after some days, the robbers become so troublesome, that the matter grows to be quite serious. I think this is the best *robbing school* ever invented.

Whenever I place a frame in, I have to brush some robbers off, and they follow me everywhere, and prove, in truth, demoralizing, as Novice says.

I intend to return to my original idea, of constructing an apiary in a straight row. With this view, I have built a stone foundation, 120 feet long and one foot high. On this I propose to erect an apiary, 120 feet long by eight feet high, and portioned off into ten or twelve divisions. The whole structure to be surrounded with boards, fore and aft, and covered with a shingle roof. The planks within the south side part, will be nailed as low as the upper part of the hives, in such a manner that none can be stolen. The ten divisions will be painted with different colors, so that the bees may easily recognize, at a long distance, the division in which their proper hives stand. The fronts of all the hives will also be painted of different colors. Before the hives a row of boards will be placed, standing at a distance of four feet, separated by partition board four feet long, the whole filled with saw dust. The whole structure will have an appearance of a row of Quinby queen-yards. This may serve for queen-yards and other purposes. Behind the hives, during the cold spring weather, a row of broad boards will be placed erect. The space between the boards and the hives will be filled with chaff or other warm stuff; and the hives also covered four inches deep. At one end stands my new bee-house, wherein my hives are now in winter quarters. My bee-house is entirely above ground, and is provided with a window the full height of the apiary. Therein will stand my honey machine for my season's operations. A railway provided with a car and a box containing fifty frames, is to run the whole length of the apiary, from the side of the bee-house. On the box hangs a small broom brush for brushing off bees, and a small lever for lifting frames, if necessary. Several small windows, provided with shutters, will be situated on the south side, to admit plenty of light, and, by means of the shutters, any amount of darkness will be at command. At some point near a window will be placed a desk, supplied with writing materials, memorandum book, bee-cap, queen-cages, and other items. In the spring I intend to feed my bees in conical bee-feeders, without top or bottom, three inches high, and two inches in diameter, made of zinc. These will be sunk in a suitable hole in the honey-board, with a piece of muslin or other stuff. Every evening each hive will receive from a suitable can, half a glass of warm maple sap, mixed with a solution of the best sugar. The feeders will be covered with a piece of board or a block, to shut tight.

In future my hives will all be of one pattern, containing twelve frames, one foot square, and so constructed that two can be used together, one being set on top of the other; and the hives provided with two fly holes if necessary. As I have them arranged, the frames will all hang at proper distance. I use no cap to my hives, but only a honey-board with a flange all around. The bottom board I intend to nail fast, using half inch boards, so that it will fit snug all round. The weight of each hive is marked on it with oil paint; also its proper designating number in large figures.

I know some will object to my hives standing all in a straight row, because of the danger of a loss of queens. To this I reply, that every fertile queen ought to have portions of her wings clipped; and new queens ought to be raised by, or rather bought of a reliable queen breeder. Natural swarming, too, ought to cease, with the introduction of the movable frames. The objection against my bottom boards being nailed tight, I will answer by remarking, that a bee-keeper ought to winter his bees in such perfection, that not a gill-glassful of dead bees can be found in any hive in the spring; and if so wintered, the bees will make short work in cleansing the hive. When the bottom board is nailed on the hive, it is easy to weigh and transport, if it happens that the owner wishes to remove a hive to a different or preferable location. If it becomes necessary or desirable to clean a hive the frames can be taken out, placed in an empty one, and so on.

I regret much to see there are serious objections urged against the Davis Queen Nursery; and wish we had further comments on this topic.

Friend Dadant has got the same trouble with the Price hive that I have had. The hive may be, in all respects, a good wintering hive out doors; but I cannot regard it as an improvement on hives generally. When a man has made quite a number of hives of any description, it is an item of no small consequence, if he finds they do not answer, to break down the whole lot, and begin anew with some other form. Hence these regretful contradictions and discouraging representations.

J. Duffeler.

Rosseau, Wis.

[For the American Bee Journal.]

The Honey Extractor. Its Use and Value.

I commenced using the honey extractor in earnest when the basswood commenced blossoming, but used it only on such stocks as were not in condition to store in boxes. All those that were in condition to store in boxes were set to work, and not meddled with, so far as the extractor was concerned. Thus you will see that my extracted honey was obtained from stocks from which I should otherwise have obtained no surplus. And as it was my first season I was very badly deceived, for at no time did I have vessels on hand at once to contain over one-half of the honey I ought to have extracted per day. Our immense yield from basswood blossoms lasted sixteen days; and here I will remark that I obtained as much surplus with the extractor in three days from my poorest stocks, or stocks that were not in condition to store in boxes, as I did in three weeks from my best stocks where they had the comb to build and store in boxes. I am aware that this looks like a large story; but my bees completely knocked me off my pins, for I had made no such calculations. Of course I had Novice's report of what he had done, but could not realize the truth until I had an actual test; and that test beat me all hollow. Hereafter I shall have a number of casks on hand, and would advise others to do the same; and then each can judge how many cans or glass jars will be wanted, and can fill them at leisure. And when we ship to long distances, I think it will be best to ship in barrels, and allow the retailer to can to suit his customers.

To say that extracted honey will not sell is all a mistake; at least that is my experience. I have sold all my extracted honey, in cans, at three pounds to the dollar, and by the pailful at twenty-five cents per pound; and box honey at twenty-five to thirty cents—the canned honey going the fastest. But this would not be a fair test in large quantities, if shipped to a distant market. I kept no precise account of the amount of honey obtained this season, but I sold one hundred dollars' worth in the first week in July, before I had any box honey made.

I will now endeavor to answer Mr. Henderson's inquiries, made in the December number, page 135. First, I used the Peabody extractor, price fifteen dollars, including two honey knives. It worked satisfactorily, but I do not say it is the best, as I have used no other. Second, during the yield of basswood honey, it ought to have been extracted at least every other day, and in some cases every day. It was only partially capped. Third, the weather was extremely dry and hot, and all the honey deposited in the cells by the Italians was very thick, so much so that it candied or grained in self-sealing cans. As it run out of the extractor into pans it would pile up similar to thick molasses in cold weather. Fourth, the honey was so thick, as made by the Italians, that it was impossible to extract it without throwing out all the unsealed brood, or displacing it in the cells. My hive being an oblong one, I could use combs from the sides not having brood in the cells; and I think that hereafter I shall use some with sixteen frames instead of twelve, purposely for the extractor, in place of a two-story hive.

I had two pure black stocks, and could extract the honey only every third day; and then it was thin and watery, and when kept by itself, it would shortly become sour. I could extract all the honey from these combs without disturbing unsealed brood in the least.

Fifth, during the yield of basswood honey there was no trouble from robbers. I used the extractor in the front yard, and no bees would meddle with the honey. Even the crossest hybrids could be handled with impunity, with the use of smoke. All were completely gorged for the sixteen days.

The machine extracts the honey so clean that none drips from the comb. When honey is not so abundant the machine must be used in a close room. Then, with common caution, there is no danger of robbers.

I have lived here five seasons, and, with one exception, have found September an excellent honey month. But bees are very reluctant to build comb at that season, as the nights are quite cool. Yet they will store large quantities of honey if empty comb is furnished them. We raise very little buckwheat here. The honey gathered from it is dark-colored, but has a pleasant flavor. Our fall honey is gathered from golden rod, asters, thistles, and other wild flowers. Some of my stocks from which I extracted all the honey in the first week in September, filled their hives completely full of excellent honey for wintering purposes.

Many correspondents have written to me that their blacks and hybrids beat the pure Italians in storing box honey. This is very easily accounted for; and still I say the Italians have given three times the amount of extracted honey that the blacks have made under the same circumstances. The Italians are bound to store honey in such a season as the past, even if they stop the queen entirely from breeding. And here is where the apiarian must use his extractor, even if he wants the most box honey.

Elisha Gallup.

Jan. 3, 1871.

[For the American Bee Journal.]

Artificial Comb.

As might have been expected, the announcement that artificial combs had been made, adapted to the wants of the bee, accepted by them, and used for storing honey and rearing brood, was followed by a host of claims for having discovered the same thing. Since the first intimation of success, it is somewhat amusing to see what is "just going to be done," though it does not appear that such combs were ever successfully used previously. It reminds one of making the egg stand on one end. After very many had tried in vain to do it, some one flattened the end a little by striking it on the table. It remained standing! "That's nothing. Any one can do that," replied a chorus of voices.

At the semi-annual meeting of our North-eastern Bee-keeper's Association, as reported by the Secretary,—see page 127 Bee Journal,—Mr. Bickford said he had "a plan for a machine that would cost about $200, to make comb out of wax or other substance. Mr. King was willing to invest $200 in a machine to make comb, but agreed with Mr. Bickford, that it would not be remunerative." Mr. B. said experimenting was expensive; would prefer to have some one else furnish the machines and make artificial comb, but he could sell a large amount. Mr. B. had made comb on a small scale, but calculated the machine would make a square foot per minute; and he could prove that a frame of comb was worth $1.50 to beginners.

I wish to encourage improvement, and as I see but little chance to compete with said machine, I would like to point out to those gentlemen, the remunerative advantages of it. We will suppose that about nine square feet of comb is enough for an ordinary hive. This, estimated at $1.50, would make $13.50 per hive. One comb per minute would take nine minutes to fill a hive; not quite an hour to fill six; not a whole day to furnish fifty. By straining a point a little, and making a big day's work, it would amount to more than a thousand dollars. Now what the material for making the comb must be, when a machine costing only $200, would not be remunerative, I cannot imagine, unless gold or greenbacks. I wish they would go over their figures once more. I think sufficient inducement would be found for those parties in communication with Mr. Bickford to bring out a machine.

If the material for making it is as cheap as wax, we (Quinby & Root,) want two thousand feet to begin with. It *does* seem that we could afford a machine. Are these gentlemen sure they know what they do want? When it was erroneously reported that Mr. Quinby could furnish everlasting comb for two dollars per hive, and Mr. B. could prove that a *frame* of it was worth $1.50, they were not satisfied.

If a machine can be made to do what Mr. Bickford claims it will, I want one even if the cost is ten times his estimate. I will take the risk of its paying the investment. At present the greatest risk seems to be in waiting for the machine itself to appear.

M. Quinby.

St. Johnsville, N. Y.

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[For the American Bee Journal.]

The Hive Controversy.

Under this head Mr. Pucket has much to say in favor of the shallow form of Langstroth hive. Well, if the shallow form suits Mr. P. I am willing for him to say all in its favor that he pleases. But there are hundreds of bee-keepers who do not like the shallow form, and all the arguments that Mr. P. can advance in its favor, will not change their opinions, nor will it change the principle of the hive. I used to think the shallow hive a very good one to winter in, but after several years' experience with it, I was obliged to change my opinion; and it has been acknowledged by Mr. Langstroth that this one disadvantage hurt the sale of his hive. (I have this from the lips of Mr. J. T. Langstroth.) Most bee-keepers are convinced that this form of the hive is not deep enough to winter bees in safely on the summer stand.

Now as I have had some experience in "tall" hives, I will reply to some questions that Mr. P. desires Mr. Calvin Rogers to reply to. "Did you ever know bees in your tall hives, to commence rearing brood at the top of the hive?" As Mr. P. has one of the Bay State hives in use, I will ask him to examine the stock in it early in the spring; and if he does not find brood not over one or two inches below the top bar, I can say that his bees do not work the same as bees do here in New England. Their stores are consumed or removed by the bees to other parts of the hive, for the purpose of making room for brood. In no kind of hive that I ever have examined did the bees commence to rear brood below the middle of the comb, but generally as near the top as they can get. In the shallow Langstroth hive the bees cluster near the top of the frames, and unless it is a very large stock, the brood must be very near the top or comb bar. The reason for this is to get as far from the entrance and cold as possible. In March and April double the amount of brood will be found in "tall" hives, than can be found in shallow ones.

Mr. P. says "the Alley hive is no better than the Langstroth two-story glass hive." The best reply I can make to this assertion is to ask Mr. P. to wait until he has had a little more experience with the Alley hive, before he gives his opinion, and then perhaps his opinion will be worth more. So, at least, it seems to me.

Mr. P. also says "the great objection to the Alley hive is its cost." I can say that they do not cost much more than his two-story Langstroth hive; and if they were offered for sale, side by side, with the L. hives at five dollars and the Bay State at seven dollars, I believe that five customers out of every six would take the Bay State hive and pay the seven dollars. There is not *more* than half the room for surplus boxes or honey in the L. hive that there is in the Bay State hive, and the honey cannot be stored in so good marketable form in the L. hive. As I have already described the Bay State hive in the Journal, I will not do so again; and will reply to only one more of Mr. P.'s assertions. He says: "They (meaning the two-story L. hives) cost no more and winter fully as well in the open air, and are some better for (pure) surplus honey, as the honey obtained from the Langstroth hive, is free from pollen, and the side boxes of the Alley hive opposite the brood nearly always contain more or less pollen. At least that is my experience." One is led to think by this statement, that Mr. P. had used this hive for several years, instead of only six or seven months. Why does Mr. P. make this assertion, when he has used the Alley hive only one season? I have no doubt that some of his boxes did contain some pollen, as that is not an uncommon thing with any hive in use. I will say, however, that I never saw any pollen in the boxes that I have taken from the Bay State hives, and it is a thing that I never heard of before. But I can say, and so can many others, that boxes used in the L. hive do contain more or less brood, (drone brood generally.) Mr. P. says nothing about this. I never saw any brood of any kind in the boxes used in the Bay State hive. Mr. P.'s opinion agrees with all who have purchased the Bay State hive, and that is, it is a good hive. This is the universal opinion of all to whom I have sold them, as well as of all those who have seen and examined them.

H. Alley.

Wenham, Jan. 9th 1871.

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The bee-keeper who has queenless stocks on hand in August, must expect as the result of his ignorance or neglect, either to have them robbed by other colonies, or destroyed by the moth.—*Langstroth.*

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One spoonful of honey attracts more flies than a hundred barrels of vinegar.

[For the American Bee Journal.]

The Thomas Hive.

MR. EDITOR :—I notice in the November number of the Bee Journal, "some few errors" corrected with regard to the Thomas hive, by Mr. Cork, of Bloomfield, Ontario.

Mr. C. speaks for Canada, and consequently when he and several other "intelligent and scientific bee-keepers" have put their veto on the Thomas hive, it is time that those who make bee-keeping "a business" should adopt some other form of hive, that would be better adapted for the production of surplus honey and early swarming. The question then arises, what hive will we use? The Langstroth or something "similar in shape," Alley's new style, or will we choose from the numberless others that are and have been recommended by the bee-keepers and vendors of hives in America? And, after all, will we get any more surplus honey, which is, or ought to be the great object of keeping bees?

Mr. C. seems to think that his shallow hives have produced more surplus honey and earlier swarms, than the Thomas hive. At least thus I read his article; and as he compares the result of his own hives with those of his neighbors, of course he decides the hive question in Canada. Still, I doubt if there are not more Thomas hives in use, in Canada, than of any other kind of movable comb hive.

I have used the Thomas hive five seasons, and think, from the account Mr. C. has given of this season's operations, that mine would compare favorably with his. The locality ought to be taken in consideration, with regard to the time of swarming, and thinks that in the vicinity of Ontawa, they should not swarm so early as at Bloomfield, Ontario, some ninety miles further south. The time that I remove my bees from winter quarters, is generally about the 25th of April; and even then I have seen a foot of snow on the ground. This year I removed them about the 20th of April, the season being earlier than usual. I wintered fifty-seven stocks—fifty good ones, and seven poor or weak. The seven weak stocks gave no increase in swarms and very little surplus honey.

About one half of the fifty-seven stocks were either Italians or hybrids. The fifty-seven stocks increased to ninety-six, and gave twenty-five hundred and seventy (2570) pounds of surplus honey. Two thousand and seventy in boxes, and five hundred pounds of machine honey. My first swarm of the season came off June 1st, and stored 59 pounds of honey in boxes: the second swarm came on the 2d of June, and stored 61 pounds in boxes, the third swarm, on the 3d of June, stored 48 pounds, and cast a swarm, which prevented it from storing any more surplus honey. One hive that did not swarm, gave 82 pounds in boxes, and another 78 pounds. I had at least twelve swarms previous to the 13th of June.

The swarms that came off before the 20th of June averaged about 40 pounds each, some of them giving 50 pounds. The honey season closed here about the 15th of July, and some of the swarms that came off after the 20th of June scarcely stored enough honey to winter. I only divided three swarms; they did as well as others that swarmed about the same time. Had I been able to attend to them, I might have increased the amount of surplus honey. I was away nearly a fortnight during the best of the honey season, leaving others to attend to the hiving of the bees and nothing more. Seven of my first swarms left for the woods, three of those on the 5th of June, there being eight swarms that day.

Now, I ask the readers of the Journal, and also Mr. C., considering the latitude, did not my bees in the Thomas hive do as well as Mr. C.'s did in the shallow hive, or in Alley's new style of Langstroth hive? Why should mine swarm on the first of June, and almost each succeeding day, in a colder climate, and Mr. C. having the early swarming shallow hive, and yet has not a swarm until the 13th of June? We will allow that his bees were wintered well, as I claim mine were; then the cause must be that the shallow hive does not retain sufficient heat for early breeding.

Mr. C.'s neighbor found this "a very bad season," although living only five miles distant from him. My neighbor also found this a very bad season, living only one mile distant, and he had two Thomas hives. I was informed that his bees were not storing any surplus honey, and upon examination, I found one with the honey box wrong side up; while the other had no honey box on, and the bees had taken possession of the cover of the hive.

I have to inform Mr. C. that Mr. W. P. Taylor, of Fitzroy Harbor, "who was formerly an agent," is still an agent for the Thomas hive. Although the shallow Langstroth hive may be "just the thing," still I think I have wintered mine as well, have had as early swarms, and have got as much, if not more, surplus honey, than those who are using the shallow hive in this vicinity.

As I not do not make a "business" of bee-keeping, of course I may use the Thomas hive; which I intend doing just so long as it pays as well as this season; and until I find a hive that has more good qualities and fewer faults.

I generally winter my bees in a cellar. I put in 61 stocks last fall. One died, which I think was queenless; one was queenless in the spring; and two weak swarms died in the spring for want of honey. About 40 of them were taken out with only a sprinkling of dead bees on the bottom board. Some of the others had a pint, and some a quart, of dead bees. My best Italian hive had about two quarts of dead bees; of course, I thought if it swarmed this season it would be late, and was surprised when a swarm issued on the 2d of June, which gave the 61 lbs. of honey in boxes. The hive itself gave 35 lbs. of honey in boxes and 15 lbs. of machine honey.

This hive, had a young queen and was protected from cold winds in the spring. I do not mind a few dead bees in the hive. Old bees must die.

My hives were generally free from mould; a few were quite damp; although when put in all were ventilated alike. I believe that hives ought to be ventilated to suit the strength of the stock; and the Italians require more upward ventilation then the black bees, or require to be kept in a cooler place. I find them easily disturbed, and they generally have more dead bees in the hive in the spring. I have had two stocks ventilated alike, and standing alongside of one another. In the spring, one would be perfectly dry, have no mould, nor scarcely any dead bees; while the other would be damp and mouldy, and have a great number of dead bees.

Mr. T. Smith, of Pelee Island, Ontario, seems to have been quite disappoined with the results of his experiments in wintering bees in the Thomas and the Langstroth hives. I have seen results quite as different, with a neighbor of mine, when he wintered eight colonies in the Thomas hive, and lost six in the Langstroth hive, only wintering one in a two-story Langstroth observing hive. In this case I believe the cause of the bees dying in the Langstroth hive was, that their stores got frozen, the temperature not being so high in the shallow hive as in the tall one. Perhaps Mr. Smith's stock, that wintered so well in the Thomas hive, had an old queen. If so, I would prefer a hive with two quarts of dead bees in the spring, provided it contained a young queen, and that the stocks were equal in strength in the fall.

Will any of the readers of the Journal state what kind of jar or bottle is best for putting up machine honey for market, and where they can be got? I think it would be better to put it up in glass, so that the color of honey may be seen.

John McLatchie.

New Edinburgh, Ontario, Nov. 24, 1870.

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[For the American Bee Journal.]

No Bees in Colorado.

Mr. Editor:—A correspondent of the Journal inquires about the adaptation of Colorado for "bees and bee culture." We would give our opinion from several years' residence in that territory. We do not remember seeing a single bee there of any kind; in fact, we believe insects are rather scarce there, with the exception of grasshoppers and greybacks.

The honey bee, we believe, has never been found, in a wild state, west of the Plains, which used to be called the Great American Desert; but since Horace Greeley passed over it, and commenced his essays on farming, grass has grown to a considerable extent. It is hard to say whether it was the philosopher or the essays that produced the change. Some advocate the theory that the smoke of the steam engines and the railroad conducting electricity along the track have been the cause of producing frequent showers, and changed the great arid desert into a pastoral region. One thing is certain, the Great American Desert is now being written out of existence.

But as to bees, we do not believe they have yet been tried in California; at least we are not aware of the fact, if they have. We do not believe, however, that bees would begin to live there unless they could be learnt to chew gum. We do not remember having seen a single melliferous plant there that bees frequent in this section of the country—no basswood, no sumac, no nothing, except cactus, sage, and the different species of pine, which is the only tree that prevails to any extent in that territory. There is one thing that bees could be well supplied with there: that is propolis. They could pitch their hives with it within and without.

In Kansas our main dependence for honey is, first, fruit blossoms, including apple, peach, crab-apple, plum, raspberries, blackberries, strawberries, etc.; then basswood, sumac, buckwheat, and heartsease. Without the basswood and sumac bee-keeping would be a sorry business here. Of the latter there are two kinds here: the one blossoming about the middle of June, and the other the latter part of July. The basswood comes in between, and the three make a rich supply of honey for nearly forty days—each kind of sumac being nearly equally as rich as the basswood. Now, bees would not begin to live here without these plants, and none of them abound in Colorado to any considerable extent. I have been informed by a person who tried bee-keeping three or four miles from the timber in Kansas that he failed entirely, the bees starving to death in summer.

As to the climate of Colorado our friend must have been slightly misinformed. We wintered on the Arkansas River, at the foot of the mountains, in about as favorable a location as could be found, being protected on the west and the north by high ranges of mountains. We had no thermometer; but we know that it froze ice to the thickness of five or six inches, which, of course, would indicate a temperature considerably below 30°. But, as to summer, you can easily find a place where you will not suffer with the heat. We spent part of July and August at a place in the mountains, west of the South Park, where it would freeze ice about a fourth of an inch thick every night, and large snow banks were only a few rods distant during the whole time.

We think that bees would not do well so high up as that, the air being so light that when the bee would get his load of *gum*, he would inevitably fall to the ground. Finally, we give it as our opinion that Colorado will *never* be a good country for the honey-bee on account of the aridity of the climate. Although some honey-producing plants might be grown there, we think they would fail to produce the desired sweetness for the reason above mentioned.

N. Cameron.

Lawrence, Kansas, Jan., 1871.

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No study like natural history, pursued in an humble and docile spirit, so harmoniously elicits the religion of the soul, or so fitly prepares it to enter, by the pathway of the works of God, the august temple of His revealed Word.—Shuckard.

◆

Bees extract sweets from the most poisonous plants.

[For the American Bee Journal.]

"Systematic Plagiarism."

Mr. Editor:—I wish to call attention to an article by B. Puckett on page 260 of the Bee Journal for June last.

He says "Mitchell acknowledges that he has not confined his work altogether to his own views, but has drawn from the Mysteries of Bee-keeping, by Quinby, Text Book by King & Co., and K. P. Kidder's work. Now, if Mr. Mitchell is familiar with the rise and progress of bee-keeping in this country, he knows very well that the works he mentions have drawn more or less from Mr. Langstroth, and that without giving Mr. Langstroth credit." Quinby, King, and Kidder. These are accused of having drawn from Mr. Langstroth without credit. This I deny with reference to Quinby, and demand the proof. Will he please to produce a single line so purloined? Now if Mr. B. Puckett was as "familiar with the rise and progress of bee-keeping in this country" as he ought to be, before making these sweeping assertions, he would "know very well" that Mr. Quinby was "pioneer" in this matter, that he had kept bees long before Mr. Langstroth, had given the benefit of his experience through the press, had written a book, published in 1853, simultaneously with Mr. Langstroth's work—both works going through the press at one time. Of course it was simply impossible for one to plagiarize from the other. The almost perfect harmony running through all the natural history of the bee no doubt gave rise to the idea of stealing to those not posted. Mr. Langstroth deemed it best to revise his work before Mr. Quinby did his; and to show that he did not consider Quinby the plagiarist here represented, see his own words: "I shall here quote from one of the most common-sense works on practical bee-keeping which has ever been written in our language, and which I would strongly recommend every bee-keeper to purchase. I refer to the Mysteries, etc., by Mr. Quinby. This treatise bears marks, on almost every page, of being the work of an accurate, experienced, and thoroughly honest observer."—L. L. Langstroth, author of "The Hive and Honey Bee." As well might Langstroth be accused of plagiarizing from Quinby as Quinby from Langstroth. Does Mr. Puckett comprehend that he can commit an act of as great injustice by taking from one to whom it belongs and giving to another, or even withholding merit from where it is due, as to copy without credit?

I can say with Mr. Puckett that "I do like fairness and honesty in everything," and for that reason would take off about half of the following: "Everybody knows that Mr. Langstroth is the great pioneer and inventor and first introducer in this country of the movable comb system, which has so entirely revolutionized bee-keeping." Now I would concede the "great pioneer," the "first introducer,"—not the inventor* of the movable comb system,—and say *half* the credit of the revolution.* I do not desire to take from Mr. Langstroth one particle of deserved merit claimed by him. If I had not been accused of this despicable meanness, this would have passed unnoticed.

Mr. Langstroth claims an improvement in movable combs—not the principle—for which he obtained a patent. If some one else improves another point, I fail to see the injustice of his obtaining a patent as well as Mr. Langstroth. If Mr. Langstroth knowingly, or others for him, claims by his patent more than he can justly hold,* and bee-keepers are deceived to their harm thereby, are they not guilty of injustice? I wish we could all avoid falling into the very error that we would criticise. I have tried and often failed. We must learn to graduate our praise in proportion as it is merited. The one talent should not be monopolized by the one ten possessing. *All* or *none* is a false motto. To criticise justly requires very nice discrimination; and when *justice requires* that we should take that which is coveted by a friend and bestow it on one for whom we feel indifference, it requires a quality which few possess. M. Quinby.

St. Johnsville, N. Y.

[* We read these expressions with perfect amazement. In fact Mr. Quinby's position, as regards Mr. Langstroth and his hive, has long been to us one of the "mysteries" *not* explained;" and by these expressions, at this late day, we feel ourselves more *mystified* than ever.—Ed.]

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[For the American Bee Journal.]

The Queen Nursery.

Mr. Editor:—Allow me to say that Mr. Nesbit made a sad mistake in taking out two frames instead of one; and then, too, something must depend on the form of the hive. His cages, also, were made wrong. My old friend, Wellhuysen used a hollow milkweed stem, with a small slot cut out of one side, about one-eighth inch wide, and from one to two inches long. One end was plugged up with a plug sharpened at the outer end; the other end was fastened with a common stopper. The sharpened end would be inserted in the brood comb. The unhatched cells were placed in these cages, also the unimpregnated queens; they were kept there until wanted for use. I was once at his place when he had fifty queens and cells in two hives; and his theory was that, providing there was abundance of young nursing bees and the workers were gathering honey, the queens would invariably be fed by the nursing bees; or, if the stocks were fed abundantly with the right kind of food, the queens would be taken care of. In that respect I have found him correct. I have had sixteen queens hatch naturally, all at liberty, and all kept five days in the same hive, while the above conditions were complied with. On the fifth day I separated them. How much longer they would have been kept I cannot say; but if forage was scarce, all supernumerary queens would be destroyed, and usually before they were hatched.

I am aware that many will fail with the Nursery; but I certainly had the best of success. Even for experiment, I took two queen cells that were not sealed over and the larvæ were not mature, yet both hatched out perfect queens. Many will place the food for the young queens, so that they will besmear themselves with honey, which is sure death for them. Many, too, will handle the cells so as to destroy the sealed queen therein; but that is not my fault. I do not intend to take out a patent on the hollow reed or milkweed. So if any one shall see fit to experiment with it, I certainly have no objections. If Mr. Wellhuysen and myself succeeded with it, I do not see why others cannot do the same, with the requisite knowledge for success. In the hollow milkweed we placed the honey at the lower end. The queen in that case never besmeared herself, as the slot or ventilation was above the food. Now it appears to me that any one ought to succeed with a patented Queen Nursery, if myself and friend could succeed with a common unpatented milkweed. I have just returned from the National Convention at Indianapolis, and heard several bee-keepers say that they had tried the Nursery, and in their opinion it was one of the greatest inventions of the age. But they did not say who gave the Doctor the information that enabled him to get up the invention; neither did I.

ELISHA GALLUP.

Orchard, Iowa, Dec. 30, 1870.

[For the American Bee Journal.]

Winter Management.

MR. EDITOR:—Much has already been said on the winter management of bees, yet, I think, bee-keepers are apt to forget that to have their bees come out strong and healthy in the spring, and be in a proper condition to swarm early and store surplus honey, they should be protected in some way from the weather, from December to April.

Now I cannot fully agree with Brother Bickford, in the November number, page 107, where he says that "bees must be put where the sun can warm them up occasionally," *except when you wish them to fly and discharge their fæces*, then give them the benefit of the sun, when the temperature is 47° or higher, in the shade. My experience is that, if you want your bees to consume double the quantity of stores they need; if you want to run the risk of their having the dysentery and feel the sudden changes, give them the full benefit of the sun every warm day, and you will be pretty sure to bring about those results. The important point of successful wintering is not so much the state of the temperature,—that is, if it does not go above 35°,—as it is to have the temperature *even;* and with the mercury at from zero to 10° above in the night, and a warm sun on the hive in the daytime, it is impossible to winter successfully.

I have experimented on those points and found that when my bees do not get a ray of sun from the first of January to the last of March, they come out best and consume only a small quantity of stores, and are the first to swarm in the spring.

Last winter I made a rough box, without top or bottom, set it on over the hive, filled in around the hive with cheap hay or shavings, leaving the summer passage open an inch. The box was an inch higher than the hive, after the cap was removed, and a board was laid on the top, to keep out rain, snow, and mice. The frame hives with boxes on the sides, I fix up as follows: Remove the boxes; close the holes on the honey board; fill in with shavings; remove two frames and set the others apart so as to give bees more room to cluster in the centre; lay strips over the frames, and over them some woollen cloths to absorb the moisture. I find the bees like that arrangement very much, and make passages through each comb near the centre.

Before adopting the above method of wintering my bees, I was informed by some of the best bee-keepers in the country that it was not necessary for bees to have the sun except when we wish to have them fly. On the strength of these statements, I have wintered in that way with excellent results. On the first trial I did not see a bee from the first of January till the last of March. I would listen at the entrance, but not a sound was heard; all was still through the long, cold winter months. At last there came a warm day, and I was bound to know the result. I removed the outer protection, so that they could feel the rays of the sun, and such a glorious fly as they had! And, to my surprise, there were not twenty dead bees to a hive.

Another point on which I wish to say a word. These protections are not only good through the winter, but they are excellent through the months of April and May. It is often the case that we have fine warm weather early, and the queen breeds rapidly and occupies a number of frames. Then comes a sudden change, and if the hive has no protection, there are not bees enough to keep up the proper temperature, and the brood gets chilled. Such is my experience in these matters.

A. GREEN.

Amesburg, Mass., Dec. 24, 1870.

[For the American Bee Journal.]

Suggestions and Comments.

MR. EDITOR:—I wish the bee-keeping fraternity of the Southern and Middle States could be induced to write a monthly communication for your Journal, of their care and management, as well as their success in bee-keeping. The experience of our Northern and Western brethren does not correspond with ours; and their management would not altogether suit our climate; but they write, interchange opinions, and are thereby benefited. Just what we need in the South. If you, Southern readers of the Journal, know anything worth telling, tell it. If you have discovered any new light don't "put it under a bushel," for fear some one will be as wise as you are, but out with it. If you have invented anything new and valuable (except a bee-hive—we have plenty of them), get a patent for it. Our people are now afflicted with enough different hives to fill out one decade.

Some thoughts, in looking over the December and January numbers, have suggested themselves to my mind, and I write them.

Could not the Department of Agriculture at Washington, which of late years has done so much to procure and disseminate useful and rare seeds, vines, and plants, be induced to import some of those East India bees spoken of by the Rev. Mr. Stellar in a communication to Mr. H. Bornitz, and translated for the Journal by the editor?

From a notice in the December number, I applied to and received from Commissioner Capron, a small package of the Partridge Pea, and will give it a trial in the spring. One year ago (having previously failed to find any) I wrote to the Agricultural Department, inquiring if there was such an article as white buckwheat, of which I would be pleased to receive a small quantity. A prompt reply informed me that the Department had not then any to distribute, but that I could procure it from almost any seed dealer. I subsequently saw advertised in the New York Bee Journal, *white or silver-skin buckwheat* for sale, at so much per pound. I sent the price for one or two pounds, and when I received it you may guess my surprise and chagrin, when, as old Billy Keele says, sending off to "ferin parts" and paying as much for a pound as would purchase a bushel equally good at home. I had raised plenty of the same sort. It bore about as much resemblance to white or silver-skin as a Choctaw or Creek Indian does to the fairest Caucasian.

The *stranger* who attended the North Western Bee-keeper's Association, must have a different kind of Spanish Needles where he lives, than those growing in Tennessee, when he says one acre will give more honey than five of buckwheat. I think, Mr. Stranger, you are mistaken.

I have yet to discover any difference or excellence in a queen raised by the bees when they took a notion to swarm, or one raised by them when I took a notion they should, by removal of the old queen.

I see the December number concludes that ever-lasting looking-glass *pow-wow ;* but the controversy on the hive question goes bravely on, and if every new-comer gets a say there is no guessing the end, for in nearly every number of the Scientific American, which publishes weekly the patents issued at Washington, I notice from one to five new patent hives.

Whenever Mr. Swett gets that "picter tuck" of Gallup at the Fair, I speak for a copy.

I have seen two queens in a hive on the same comb, and perfectly harmonious—both laying. One was an old one, becoming feeble, and on account of being shifted during the breeding season to several different hives, becoming unfertile. The other, a few weeks old. A neighbor of mine had a cast, or second swarm, which came off the past summer, and had with it some ten or twelve queens.

Mr. Chapman, of West Virgina, has hit upon the right receipt for keeping bees from decamping for the woods, and his article reminds me of many superstitions which are entertained by ignorant bee-keepers of our country, and were handed down from father to son for generations. Many of them have been published. Superstitions about bees having existed, I suppose in all ages. In the great battle between Hannibal and Scipio, in the valley of the Po and Tesino, in Italy, a swarm of bees pitched upon a tree near the Roman general's tent, which filled his army with consternation and dread, being considered by them an ill omen, and the battle was lost by the Romans The American Indians regard the honey bee (white man's fly), when coming into their wild retreats, as boding them no good, and believe them the forerunners of an intention, on the part of the whites, to dispossess them of their home and grounds.

If Alonzo Barnard, of Bangor, Me., will indicate how I shall send him some plants of the Bee Balm, I will do so with pleasure. I have the kind he is inquiring for, and have often, when a swarm was issuing, bruised the leaves and placed them where I wished the swarm to settle, and nearly always with success.

W. P. Henderson.

Murfreesboro', Tenn., Jan. 8th, 1871.

[For the American Bee Journal.

Foulbrood.

I am not quite sure that I understand Mr. Alley, in the May number of the Bee Journal, when he says: "Let them test Mr. Quinby's remedy, and then mine." I cannot see any remedy about it. Neither do I see anything to test, on his side, any way. We are not discussing the question whether burning the hive and contents will not be entirely effectual. It admits of no discussion ; it is no question ; all will acknowledge it. But when I recommend economy, and a more profitable disposition of the bees, he may express doubts, or deny the possibility ; and this can be contested. Mr. Alley discourages all effort in this direction. He is confident that he is right, and that I am wrong. It might be inferred that he considered my statement false. He says : "Of what use to experiment with the disease, when all who have been troubled with it meet with the same success, and know that the whole thing must be destroyed, sooner or later." Does this amount to saying, that I "know that the whole thing must be destroyed," and have met with the same success while making a contrary statement?

His *belief* will prove but little : mine will prove no more. Yet I might believe that "nine out of every ten bee keepers," who *will* try killing his bees, "will wish they had done as I did," and saved them, when they have tested it. Mr. A. must oppose any attempt at a cure as stated by Dr. Abbe in the November number. For the last three years I have had an assistant who will qualify that, during that time, I have not destroyed a colony, except as described ; and that this fall not half a dozen colonies, among hundreds, could be found even slightly diseased. For the last ten years it has gradually decreased, and not a bad case in five years. I shall rely on *my own* experience, and continue the old course a little longer. I think Mr. Alley owes me, as well as to himself, an investigation and a statement of how he finds the facts

St. Johnsville, N. Y. M. Quinby.

[For the American Bee Journal.]

Replies and Remarks.

Mr. H. B. Coney asks questions. With the honey extractor I modify my views somewhat. In the November number, page 104, Mr. T. Smith gives a good plan for a northern climate. I am now going to fix my hives, with the same frames I now use, on the Alley plan, with side boxes and outer case. I can then use the extractor without disturbing boxes; and it is or appears to be a positive fact that bees will store in side boxes or frames as well, and some say better than they will in top boxes. That is, providing the hive is in the proper form. I think it would be a very easy matter to explain why bees do not breed early and satisfactorily in the Thomas hive. Make your frames not over eleven inches wide, and more of them, and it will work satisfactorily. My hive is twelve inches deep, twelve inches from front to rear, and eighteen inches wide. Make them no wider from front to rear but rather narrower, if anything, and add to the depth to make up the capacity and to give room for side surplus.

I have just returned from the National Convention, where I saw the most outlandish hives that can be thought of; and still I have seen nothing better than what I now use. (This is simply my opinion.) This form, or something near the same form, as Mr. Smith says, is capable of being used more ways with the same size frame, for all the different styles, than any hive I ever saw, with the exception of Mr. Adair's section hive, and still it is a cheap hive. The difference between frames running from front to rear, and from side to side, you would very soon discover, providing you should make the experiment. With my hive, for example, as it is now arranged, it is not difficult to get the queen to breed in any part of the hive. But arrange the entrance as in the Alley hive, so that the frames run from side to side, and you will find it almost impossible to get the queen to breed in the rear combs; and the bees do not even like to build comb in the rear—and in the Alley hive the rear combs are the last ones to be built. Swarms are almost invariably weaker in numbers in such hives in the fall than they are in hives with the natural arrangement of the comb. There is not so marked a difference in the Alley hive with the side boxes open, as there is in a tight box, or a hive with boxes on top. I am certainly pleased to learn that one man has found Mr. Alley a gentleman to deal with. It seems Mr. Dadant has got a wrong impression about my modifying my views on artificial queens. I, for one, do not see in what respect they are modified. I never intended to convey the idea that all artificial queens are worthless; but a large proportion of them are, as they are usually raised.

ELISHA GALLUP.

Orchard, Iowa, Dec. 30, 1870.

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The bees throughout the world, as known collectively to the richest cabinets, number about two thousand species.

[For the American Bee Journal,]

Another Smoker.

MR. EDITOR :—Noticing a communication on page 109 of the November number of the Bee Journal, from Mr. J. M. Price, in which he describes his new smoker, believing it to be the best, I am induced to present to the readers of the Journal a description of the one I use. Whether it is better than his or not, will be for those to decide who try it. I make it in this way. Get a good piece of hickory wood, dry or seasoned would probably be the best; next take an inch or an inch and a quarter auger, and bore a hole, with the grain, in your piece of wood, about two inches in length, more or less, whichever suits you best. I bore about two inches. Now turn it to some convenient shape, for instance like a pipe; turn the edges at the top to about one-eighth of an inch thick. Now bore a small hole through in the lower edge of this cavity, and get a pipe-stem about eight or ten inches long, to fit this. Then fill with rags, tobacco, or whatever suits best, and light well with fire. Put a rag over the top, and blow. You will be surprised to see the smoke stream from the stem, and the bees get out of its road. When not in use the rag should be taken off, so that it may get air. The cavity being large will hold fire better than when small. Some of the readers should try this smoker, and report through the Journal.

A. J. FISHER.

East Liverpool, Ohio.

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[For the American Bee Journal.]

Yet Another Smoker.

I have long been anxious to get the best possible smoker, and have tried nearly everything in that line that has been brought to my notice in the Bee Journal and otherwise. I have also experimented some in my own way, and for the last two or three years have always come back to the use of the same smoker, made as follows: Take a piece of rotten wood rounded to about one inch in diameter, of any convenient length; roll it in some eight or ten folds of cotton rags. If tobacco is wanted, roll it in with the rags. Tie with separate strings of cotton twine, one and a quarter (1¼) inches apart. Wood and rags thus combined, burn better than either alone; but if the wood is too much decayed it will burn too fast, and *vice versa*. If sufficiently porous to burn, and yet sufficiently firm, this makes an efficient and cleanly smoker, not apt to go out. Prepare a supply of smokers beforehand. To cut the strings quickly and of equal length, wind the twine around a piece of board of the proper width, and cut all through at once with a knife.

HENRY CRIST.

Lake, Stark Co., Ohio, Dec. 29, 1870.

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The sting of a bee carries conviction with it. It makes a man a bee-leaver at once.

[For the American Bee Journal.]

Successful Use of the Looking-Glass.

MR. EDITOR:—In the December number of the Bee Journal I see "THE LOOKING-GLASS CONCLUDED;" but will you permit me to give to the readers of the Journal my experience therewith the past season. I had three decamping swarms that left my apiary. I had hived the first in the forenoon, on the day it swarmed; but, at about four o'clock in the afternoon, it decamped for parts unknown. It got off some distance before I got ready with the looking-glass, but, to my surprise, the third flash of the sun's rays with the looking-glass mode the bees fly round and round, instead of going straightforward as before; and they immediately settled upon a tree. The second swarm came off in the afternoon. It made no halt to settle, but started direct for the timber. I followed it, and brought it down the same way. The third one got nearly half a mile away, flying on the east side of the timber. The sun being in the west we could not use the glass; but, as soon as we got the sun, three or four flashes settled it also. I have the three swarms thus arrested, and they have all done well. So much saved by taking the American Bee Journal, say at least *thirty dollars* in one season.

I tender my thanks to IGNORAMUS for the publication of the looking-glass theory. But this is not all. There are many other instructive articles in the Journal very useful to bee-keepers. I love the Bee Journal, as it encourages and builds up the bee-keeper. It is as valuable in that respect as a class-meeting is to Christians. I value it much; it will pay any man to take it, even if he has only one colony.

My bees did well the forepart of the season; but the latter part was too dry. I have seventy-six colonies, in good condition, all in Langstroth hives. I will here say, to my brother bee-keepers, that I live six miles north of the City of Lincoln. Should any of my brothers travel this way I would be pleased to have him call and see me. I entertain bee-keepers free, except they should be engaged in selling the sixth secret of bee-keeping.

JOS. L. HILSHER.

Lincoln, Ills., Dec. 15, 1870.

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[For the American Bee Journal.]

Pollen from Spanish Needles.

MR. EDITOR:—On page 167 of the Journal for this month I see that, speaking of bees working on Spanish Needles, J. S. McKernan says, "I do not think they will touch it."

Now I wish to inform him that I know they will. When my bees were about quitting the buckwheat I discovered they were bringing in a considerable quantity of pollen, which was not like that they got from buckwheat. So, about nine o'clock in the morning, I went to the buckwheat, and not a bee could I see on it; but I saw a cluster of Spanish Needles in full bloom and the bees on it thick, with the kind of pollen on their legs which I had seen them bringing home. I saw the same several times subsequently.

J. M. BERRY.

Bloomington, Ind., Jan. 9, 1871.

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[For the American Bee Journal.]

Answer to Puzzle for Young Bee-keepers.

MR. EDITOR:—There is little of anything in the Journal that escapes my gaze. I give an answer to the puzzle for young bee-keepers, in the January number, page 164.

There was 2,400 honey bees in their home, and eight in the humbler's home; and two, or the fourth part of the latter, would be equal to the 12,000th part of the former.

3 | 24,000
1000 | 8,000
4 | 8
2 | 24,000
12,000

Puzzle No. 2.

Suppose A. to have a certain number of swarms of bees, B. says to A. give me ten of yours and I will have as many as you. No, says A., but do you give me ten of yours, and I will have just as many again as you. What number had each?

J. H. H.

Breesport (N. Y.), Jan. 8, 1871.

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[For the American Bee Journal.]

That Puzzle.

The puzzle for young bee-keepers is a puzzle for old ones also. Fucus does not furnish data enough to draw a solution from. The number of *humble bees* may be 4, 8, or 12, or any multiple of 4, and the number of honey bees may be 12,000, 24,000, or 36,000, or any multiple of 12,000. Thus,

Suppose the honey bees to be 12,000, then one third of that, 4000, is as many thousands as there are of humble bees, or 4; and one-fourth of 4 is 1, which is the twelve thousandth of 12,000, the number of honey bees. And so with 24,000, 36,000, 48,000, or any other number which is a multiple of 12,000. A question which may be solved so many ways amounts to nothing.

H. W. S.

Cincinnati, Jan. 13, 1871.

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[For the American Bee Journal.]

Correction.

At page 159 you make me say I found "upwards of twenty queen cells." This I should not have thought extraordinary or worthy of remark. I said "upwards of twenty *queens*," which I thought somewhat rare.

TYRO.

Ontario, Canada, January, 1871.

THE AMERICAN BEE JOURNAL.

Washington, Feb., 1871.

☞ Want of room, and the late period at which some were received, compels us to omit a large number of communications this month.

☞ We are requested to state that on all letters mailed for Canada *with only three cents postage paid on them*, full postage (ten cents) is required to be paid when they are received there—just the same as though no postage had been paid on them, when mailed in the United States. But if six cents postage is prepaid on them, they go through to their destination without further charge.

☞ We shall be able to give our readers, in an early number of the JOURNAL, a full account of a new, and it is said well tested, mode of safely introducing a queen into a colony, without the trouble of previously removing the old queen, or searching for and destroying a fertile worker, if such a "troublesome customer" has usurped or acquired dominion of a hive. The device used is simple and cheap; and if found to be efficient—as we are assured it will be, by those who have employed it—it will greatly facilitate operations in bee culture, as well as prevent losses and annoying disappointments.

The Convention of bee-keepers which is to meet at Cincinnati a few days hence, is convoked at the special instance of Mr. H. A. King, evidently under the impulse of some fancied grievance, and with the obvious intent to secure and promote his own interest under the guise of an ostensible extreme solicitude for the advancement of bee-culture. As he has thus, from the outset, made himself peculiarly prominent in the matter, it is only right and proper that he should be and remain for the Convention a conspicuous object of regard, as connected with the purpose of their assembling. This is but fair. He is, besides, the publisher, and claims to be the author, of a treatise on bee-culture, and likewise the patentee—thrice repeated—of a hive by himself puffed and lauded to the skies. Now the claims and pretensions of such a man are fair and fit subjects of consideration by the respectable and intelligent body of practical apiarians thus called together through his instrumentality. If those claims and pretensions are valid, let them be endorsed and sustained; if not, let them be pronounced and denounced as a fraud and a swindle. And Mr. King himself should not only not shun, but seek, and eagerly embrace the coming opportunity to vindicate his title to the character he has assumed and the position he seeks to occupy. In his book, speaking of his hive, he says:—

"The hive embodies two series of improvements. The first was the result of the inventive skill of several persons whose inventions were purchased and combined in this hive, and secured by letters patent, November 24th, 1863. The last series of improvements, including our improved movable comb frame, patented October 10th, 1865, originated from a discovery deduced from carefully-conducted experiments, which seems destined to revolutionize all other systems of bee-keeping. This discovery clearly reveals the *cause* of the imperfection which has heretofore existed in all movable-comb hives (our own not excepted). But our latest improvements completely remedy these defects, and considering the past popularity of the hive, place its future supremacy beyond question. It could hardly be expected that perfection would be reached in the first movable-comb hive invented in this country. On the contrary, we have demonstrated by close observation and careful experiment that this very point *now* claimed by the inventor, viz.: the shallow space between and above the top-bars of the frames is the direct cause of a great waste of animal heat, requiring an increased consumption of honey in winter, besides retarding early breeding in the spring, and frequently entirely preventing a commencement being made in the surplus honey boxes."

Now here are divers broad claims intermingled with sundry well rounded assertions, which somehow get to be understood by the purchasers of *rights*, as covering still broader assumptions, and as conveying privileges that cannot be "nominated in the bond." Hence it becomes the duty of a fair-minded inventor to avail himself of any favorable occasion to explain matters and put himself *rectus in curia*. Let Mr. King do this; let him show to the Convention, or to a Committee,

First.—What his several patents cover, that is of any value to a hive, or to bee-culture, and was new when patented.

Secondly.—What peculiar feature, device or arrangement it is, that gives his hive the "supremacy" claimed for it; and that such feature, device, or arrangement is covered by his patent or any one of them.

Thirdly.—In what consists the grand "discovery" on which the patent of October 10th, 1863 is based, and which, according to the book, is such an essential matter as "seems destined to revolutionize all other systems of bee-keeping."

Fourthly.—How the omission of "the shallow space between and above the top-bars of the frames," to prevent "a great waste of animal heat, requiring an increased consumption of honey in winter," squares with the object of "leaving a cavity above the frames," "to absorb the moisture arising from the bees in winter?" as stated by him on the preceding page.

The advantages and superiority of the hive in question have been so long, so loudly, and so extensively ding-donged in the ears of the bee-keeping community, that a reasonable curiosity has been excited to know whether there is anything more than sound in it. Its inventor will doubtless be present at the Cincinnati Convention. That Convention will be composed of many earnest, intelligent and experienced bee-keepers, certainly not prejudiced against the hive or as its inventor, but not improbably—at least as to part of them—somewhat prepossessed in its favor. He could hardly ever select or obtain a fairer, more competent, or more honorable tribunal to investigate and adjudicate his case; and if he has a valid patent on any useful invention or discovery, he is entirely safe in submitting it to such a body. It is moreover the appropriate function of such bodies to scrutinize and judge of such matters; though special pains may be taken to inculcate the idea that they ought not to meddle therewith. That is a false position. It is within their proper province—not to invalidate a patent; but to ascertain what the patent covers, and in what the merits of a hive consist. But there need be no controversy about this point. If Mr. King is fully persuaded in his own mind of the validity and extent of his patents, and of the utility of his inventions, he need not fear the result of an examination, and should in fairness to those who have purchased *rights* from him, ask for one and be ready and willing to show his record to the body he has been so solicitous to convene. The time, too, is coming when the bee-keepers of the country, to protect themselves from the depredations of swindling dealers in humbug contrivances, will demand that whatever is presented for their countenance and patronage, shall be submitted to competent and impartial judges, for thorough investigation; so that thenceforward every tub may stand fairly and squarely on its own bottom, and those that have no bottom may speedily go to the bottomless pit of public condemnation and contempt.

Periodicals Received.

"American Exchange and Review," a miscellany of useful knowledge and general literature. Philadelphia.

"Old and New," a well edited monthly, with a capital Christmas number extra. Boston.

Scribner's Monthly," full of choice reading matter, profusely illustrated. New York.

"Good Health," with many instructive and useful articles worthy of careful perusal. Boston.

CORRESPONDENCE OF THE BEE JOURNAL.

Tonica, Ills., Dec. 17, 1870.—I asked you in the fall of 1868, whether I should allow my bees to *slide out*, or *feed*,—the twenty-two stands not having enough to stem the winter. You advised me to feed. It was then late in October, but I purchased a barrel of sugar, at an expense of thirty-seven dollars, and fed it to my twenty-two stocks as fast as the bees could carry it below. I wintered them in a cellar under a part of dwelling, prepared expressly for the purpose; and, when placed in their winter quarters, they altogether had not two pounds of sealed honey,—fourteen of the hives not having even a single cell sealed. I expected serious results, thinking that, according to theory, their food would sour on their hands, and that consequently the bees would sour in mine. The cellar being new, the walls were not dry, and I had left the windows out to allow circulation of air. The night before I moved the hives in, there came on a snow storm that blew the cellar about half full of snow, which was melting, and made things rather moist. I shovelled out the snow, and placed my hives in position, none of them nearer than two feet of the bottom of the cellar. I sowed about two bushels of fine lime all around on the bottom and walls of the room, removed the tins from the honey-boards, and elevated cover just far enough not to admit mice; and then attended strictly to the ventilation of the room. One other item I wish to add, before I sum up. I put about one table-spoonful of saleratus to the last six quarts of syrup fed to the bees. Now, the result. My bees were in their winter-quarters four months, and came out ALL in good order; and I realized sixty swarms and sixteen hundred pounds of box honey the ensuing summer. The sixty swarms all wintered through to the spring of 1870.

I keep a full account of my apiary, and for the two years previous to January, 1870, the credit side was $553.95 ahead. In those two years was included the poorest season (1868) I ever knew for bees; and at the time mentioned (January, 1870,) I had on hand over two hundred new empty Langstroth hives, the cost of which had been charged to apiary account. I think it paid ME to feed my bees that time.

The Journal is still a welcome visitor; but at times I think there are some things in it which had better been "respectfully rejected." What say you?—E. H. Miller.

[Aye, there's the rub! "*Da liegt der Has, im Pfeffer!*" *We* may, and doubtless do, oftimes "respectfully reject" what others would ardently desire. "Many men, many minds" is a saying as true as it is trite. Some readers like one class or description of articles, and some another. This is by no means singular. Thus, during the late joyous yule season, some lads chose plumcake and crumpets, while others eagerly grasped gingerbread and jumbles. There's "no disputing about taste,"—that's the only thing certain. It has ever been thus, too; for already in our early school days, many a good long year ago, Horace told us that even in "the high and palmy state of Rome," he had been regularly puzzled in the same manner, and forced to exclaim, in his quandary,—

——"Quid dem? quid non dem?
Renuis quod tu, jubet alter!"

Solomon was the only true philosopher we ever heard of. He taught that there is a time and place for all things; and would unquestionably have made a capital cook or a super-excellent editor. He would, on the one hand, have given leeks to the Welshman and onions to the crommuophagist; and, on the other, have shared among the sober-minded and the jocular, "the logic, and the wisdom, and the wit." Yet, if his motly crew of guests had all to be regaled from the same platter, or his multitudinous horde of readers to be interested, entertained or instructed by the same page, we rather surmise that he, too, would have found his best endeavors fruitless, and been constrained to reiterate his well-known dolorous lament,—"Vanity of vanities: all is vanity!" Let that consideration give us comfort, courage, and confidence.]

Milledgville, Ills., Dec. 18.—I like the Journal very much, having been a subscriber for three years, and I guess you might put me down for life. Long live the American Bee Journal!—F. A. Snell.

Woodstock, Vt., Dec. 19.—I now have the first three volumes of the Bee Journal bound, and wish to get the others bound also. Please send me the missing number, Vol. IV., No. 10.—G. P. Cobb.

Southport, N. Y., Nov. 22.—I have two hundred and thirty colonies of bees. A Bee-keepers' Convention will meet at Elmira, N. Y., Jan. 18th, 1871, to continue two days. Apiarians of Southern New York and Northern Pennsylvania are urged to be present, and all interested in the science of bee-culture, to aid by their presence and co-operation.—A. D. Griswold.

Pontiac, Mich., Dec. 22.—I keep my bees on the top of a two-story house in this city, having no other place to keep them conveniently. I would like to be informed of the best plan to keep bees from swarming naturally.—J. Dawson.

South Newbury, Ohio, Dec. 23.—I must say that I am being highly pleased with the constant visits of the American Bee Journal, but wish they came oftener. Bees have had a good season here. The bee scourge left me with one swarm last spring. I put that into a hive that I "got up" somewhat similar to the Bay State Hive, and the handful of bees increased to a large swarm, and gave eighty-five pounds of box honey.—J. L. Way.

North Charleston, N. H., Dec. 26.—The past season here has not been favorable to bees, though it opened gloriously. The early and protracted drought made the harvest a short one. Not much honey was gathered after the first of July. I got only a little over one hundred pounds from twenty swarms. Yet in some localities, not ten miles off, the timely showers made the season more than an average.—E. Whipple.

Saybrook, Ills., Dec. 26.—I have only few bees, but they have done the best of any in this section of the country, in the way of storing honey. They worked on a small purple-flowered weed growing in the wet ground. It seemed to be very rich in honey. Will try and send you a specimen next season.—W. H. Ball.

Bloomfield, Iowa, Dec. 28.—The past season has not been a very good one, either for honey or swarms. There was the fewest natural swarms that I have known for several years. I increased my number one-third by artificial swarming; that is, I made one from every two. Those that have box hives and logs get no surplus honey at all. My bees, with as good care as I know how to give them, gave me only thirty-two pounds surplus to the stock, and they are all in good movable comb hives. I will try to do better next season. I would have liked very much to have been at the National Bee-keepers' Convention, at Indianapolis; but business and other causes kept me away.—J. P. Fortune.

Irving, Ills., Jan. 5, 1871.—I like the American Bee Journal very well. Bees did very poorly in this part of the country the past season.—W. H. Hobson.

Greenfield, Ills., Jan. 5.—The bee season was a very poor one here last year. In the spring the weather was cold till about the middle of June, and colonies were very weak. In the swarming season I got only two swarms from twenty-seven stands. After June drought set in, and very hot weather through July and August, and nearly all the honey gathered was consumed, till in September a little was stored; but without feeding the most of my stocks will perish. My Italians laid up as much as will carry them through the winter. On the 4th of September, I got a swarm from one of my Italian stocks. On the 1st of September, I had examined the same hive, and found it full of young brood sealed over, but no honey, as that was all required for the young. Through the fall the weather was too warm. The September swarm is still alive, but has no queen, and the two summer swarms will not survive the winter. Farmers have told me that they found some tree in the woods with bees in it, but no honey. So there is a poor prospect for bees here. I will report in the spring.—J. Wahl.

Nebraska City, Kansas, Jan. 5.—I would not do without the Journal if I could, which is quite doubtful, so long as I keep bees.—O. Harman.

Worthington, Pa., Jan. 5.—I cannot do without the Bee Journal, and can only hope the day will soon come when it will be able to visit us more frequently. —J. W. Barclay.

Fayetteville, N. Y., Jan. 9.—You have my best wishes for the success of the Journal; and now, as others have done, I will state to you in part my success in bee-culture. I commenced the season with twenty-two stocks, five of which were very weak, and being in common boxes, I did nothing for them more than I did for all my bees. I fed them, like the others, liberally with sugar syrup till the fruit trees came into bloom. But it took them the whole season to recruit, so that I had really only seventeen stocks with which to begin operations. These I have increased to thirty-five, all well-stored for winter; and have taken in surplus honey twelve hundred and sixty-three (1263) pounds. As it would take too much time to give you a minute account of my every swarm, I will give you a statement of one hive. This hive had been fed all winter (like all the others), and wintered on its summer stand. It cast a swarm on the 15th of May, when apple trees were in bloom; after which I took thirty-six boxes of honey, weighing 251½ pounds in all, from the old hive, and 123½ pounds from the new swarm, making an aggregate of 324 pounds, which, at twenty-five cents per pound, is just eighty dollars; and a new swarm worth, exclusive of the hive, fifteen dollars; a profit, together, from one hive, ninety-five dollars. These two hives now contain full forty pounds of honey each, which will leave them quite a surplus to start spring operations on. I will state that the swarm was hybrid,—having a pure Italian mother mated with a black drone. If the Italian bees are humbugs, let me be humbugged in this way every year, and I will subscribe for the American Bee Journal, wishing the editor a long life with happiness, and that his shadow may never grow less.—S. Snow.

Fenn's Mills, Mich., Jan. 10.—Bee-keepers have fared poorly in this county, the past season. I am inclined to look for the reason in the fact that there is but little white clover, owing to the farmers plowing so much that it is killed out. What seems to be desired is some plant to supersede red clover, that will afford bee pasturage. I have removed to this place, which is contiguous to immense swamps on the south and considerable timber on the north, in the hope that between the two the bees may do better. Besides, I hope to Italianize my apiary next spring, hoping *they* will work on red clover. I have just been conversing with a neighbor, a German, who takes more pains with his bees than any other here. He says that in the north of Germany, near the North Sea, where, in their mildest winters, they have ice three feet thick, they raise lucerne for soiling, and he thinks it would answer the purpose here in place of red clover, for bees and for manure, though not for hay or pasture. I propose to get some alsike the coming season; though I have my fears that the farmers will be slow to adopt it in place of red, and that they will run it out the same as the white. Would it not be well for bee men to turn their attention more to the raising of such crops as will afford profit to the farmer and, at the same time, pasturage for bees?—H. Hudson.

Pettysville, Mich., Jan. 11.—I have been a reader of the Journal more than two years, and I find I cannot do without it. I think every number worth more than the subscription price.—G. Thrasher.

Silver Creek, Minn., Jan. 11.—I set out twenty-nine swarms of bees last spring, some of which were quite weak. My best stock stored twenty-one pounds of honey in the hive before the middle of April, besides fifteen or twenty pounds in the main hive that I did not take out. Bees did well till the middle of July. After that they gathered very little surplus, and built no comb, though they filled their hives for the winter.—S. Rowley.

South Brookfield, N. Y., Jan. 12.—I consider the American Bee Journal second to no publication of the kind published in America; and no apiarian who keeps bees for pleasure or profit, can afford to do without it.

Rockford, Iowa. Jan. 15.—The past season, in this vicinity, was both good and poor. During nearly the whole of May the south wind blew furiously nearly every day; and though bees were brooding rapidly, yet in most localities there were not as many bees in the hives on the first of June, as there were on the first of May. This nearly ruined the swarming for the season. The yield of basswood honey was the best I ever saw, and if Novice was favored with as good, I don't wonder he came so near having to use his "cistern" to save his honey. The full yield was excellent, and bees have gone into winter quarters with generally too much honey. Inclosed please find two dollars for the Journal another year. I don't know how I could possibly get along without the A. B. Journal.—E. Benjamin.

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[For the American Bee Journal.]

Hives at the National Convention.

There was any quantity of patent bee-hives represented at the National Convention at Indianapolis. They were worthless—that is, they were not calculated for the honey extractor, and a hive that is not so adapted now-a-days is certainly behind the times. When will people learn that it is impossible to get the same amount of surplus box honey (where the surplus room is on the top of the hive) in a tall hive, that can be got from a hive of medium depth of frames? Then, again, a hive should be so constructed that it can, with the standard comb, be divided up into four apartments for queen raising and wintering surplus queens, and still have the comb in a compact form, so that every part of it can be occupied with brood in the breeding season. This cutting up comb to fit into small nucleus boxes does not pay the common bee-keeper. Take, for illustration, the Alley frame, ten inches wide and eighteen inches high. Who cannot see that it is impossible to get a queen to breed on all parts of such a comb, when placed singly in a nucleus box? And the same can be said of the long, shallow Langstroth frame. Now, cut those frames in two, and place the two halves together, side by side, and we have the same comb in good shape for breeding and queen raising. I think any one can understand this without further illustration. Now, gentlemen, you wish me to recommend your hives to new beginners. I cannot do it, with my understanding of what a hive should be. All your little fixtures are made to gull the uninitiated. Practical bee-keepers want none of their added expense.

Elisha Gallup.

Jan. 5, 1871.

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[For the American Bee Journal.]

Response to Inquiries.

Mr. Editor:—In answer to W. P. Henderson's five questions I will give my experience.

1st. Honey Extractor. I use one with wooden case, rack with wooden bottom and ends, sides wire, geared, home-made. Cost $4.00. Works well with full frames, but very inconvenient for emptying broken combs. Besides, I do not like any wood about honey; it will shrink and absorb the honey, etc.

This honey extractor question I would like to see discussed in the Journal. I want a machine that will accommodate any size of frame, empty broken comb—with close top to keep out flies, ants, wasps, etc.; the honey to run into an outer case, so that the operator may save honey in small or large quantity, as may be desired; the frame to hang within the case in the same way it would hang in a hive; the wire frame to open at the side by some contrivance to permit broken comb to be placed side by side, and then closed and put on the arms for revolving. These are my requirements for the honey machine. Can I have them?

2d. Most persons prefer to let the bees begin to cap the honey before emptying with the machine. My experience this fall has convinced me it is a waste of honey. I shall empty, next season, fast as filled. I emptied one hive about the 7th of September, and twice after that date. After that they filled and capped over sixteen frames, 9½ inches by 14½.

3d. Honey must be evaporated by the bees in a natural way, or it must be done artificially by putting it into jars, tying over the top open domestic muslin, placing the jars in a shady place, and kept at the same temperature it would be in the hives. The best and cheapest way would be to have a vessel made so that a washing boiler would fit into it steamer fashion, bring the honey to boiling heat, and then put it into air-tight jars so it will not candy.

4th. Yes, turn slow. The brood will remain in the comb.

5th. Yes, when honey is scarce, and you have to *operate at such unseasonable times.* When bees gather honey abundantly they do not trouble.

Frederick Crathorne.

Bethlehem, Iowa, Dec. 14, 1870.

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Those bees which are exclusively inter- or subtropical seem furnished with larger capacities for fulfilling the special mission to which the family is appointed. Their pollenigerous and honey-collecting organs are peculiarly adapted both to the structure and the luxuriance of the superb vegetation of those regions, and to which they seem distinctly limited.—Shuckard.

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[From the Cincinnati Gazette.]

American Bee Keepers' Convention.

FIRST DAY'S PROCEEDINGS.

Various States of the Union, either singly or two or three of them united, have formed bee-keepers' associations, but hitherto no national association has existed in this country. The impetus given to bee culture by the discoveries of Huber, the distinguished Geneva apiarian, at the close of the last century, has sent hundreds into that pursuit. The progress of skill and knowledge in it has not lagged behind the advance made by science and skill in other departments of knowledge and industry since the blind Huber died. The necessity of associated action and effort for the benefit of bee culture has been widely felt, and that feeling has been manifested in forming numerous local associations. About a year ago two of these associations, at nearly the same time, conceived the idea of issuing a call for a convention to form a national organization. One of them was the Michigan, the other the Northeastern Bee Keepers' Association. The North American Bee Keepers' Association, organized at Indianapolis last December, and the American Bee Keepers' Association, organized here yesterday, are the results of calls issued by the above local bodies respectively, viz. : the Michigan and the Northeastern. Between the Michigan and the Northeastern there has been some controversy—with but little, if any, ill feeling—as to the claim of priority in issuing the call for the national convention. The convention called by the Michigan Association met in December last ; that called by the Northeastern Association is the one in session now in this city. Two national organizations have grown out of the enterprise of the two above named local organizations. Both associations have the same man, the Rev. L. L. Langstroth, of Oxford, for President. Many members of the association formed yesterday are members of the Northwestern formed at Indianapolis. Mr. Langstroth, of the Michigan body, in retiring from the active duties of the chair last evening, called to officiate as Chairman of the American, the Rev. Mr. Van Slyke, of the Northeastern Association. It will be seen by reading the proceedings of the meeting of delegates yesterday (printed below,) that the union of the two national associations at their next meeting, which, for both, is at the same time and place, is a moral certainty.

AFTERNOON SESSION.

About one hundred and fifty delegates from various States assembled in convention at one o'clock, yesterday afternoon, at the Templar's Hall, No. 160 Elm street, in this city. An organization was effected by electing Rev. Wm. L. Clarke, of Toronto, Chairman.

Gen. D. L. Adair, of Kentucky, moved to adopt a constitution, which he presented, and make this convention an association, to be known as the American Bee Keepers' Association.

This was objected to as needless, since we have already a North American Bee Keepers' Association. Mr. H. A. King, of New York, favored General Adair's motion. This would be the first step toward uniting the North American Association and the one proposed to organize here.

Dr. Bohrer, of Indiana, a delegate to the convention that met at Indianapolis, December 21, 1870, spoke in favor of maintaining good feeling. He desired that there should be but one association—*i. e.*, the North American or the American, as should be agreed.

Mr. R C. Otis, of Wisconsin, moved, as an amendment to Gen. Adair's motion, to appoint a committee to negotiate for union with a like committee of the North American Bee Keepers' Association.

Mr. H. A. King, of New York, moved to amend the amendment, that the convention should first organize by adopting a constitution, and then propose a union.

By carrying the previous question, the debate was cut off.

Mr. King's amendment to Mr. Otis' amendment was adopted.

The convention avoided the parliamentary form of adopting the amendment of Mr. Otis as amended, and proceeded with the constitution.

There was first a free debate upon the question of adopting a constitution, in which many quite original views were presented, both upon parliamentary usage, and the propriety of forming an association here.

The constitution was adopted article by article.

A motion was made to insert in article 4, "bee-

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keeper" instead of "person," as eligible to membership in the association, and lost.

One of the delegates wanted the word "person" retained. He wanted the number of bee keepers increased.

Mrs. Tupper, of Brighton, Iowa, said some persons who were not bee keepers wanted to become such.

The following is the

Constitution.

ARTICLE 1. This association shall be known as the American Bee Keepers' Association, and shall meet annually. Its objects shall be to promote the interests of bee culture.

ART. 2. The officers of this association shall be a President and Vice-President from each State, Territory and province represented; a Secretary, two Assistant Secretaries, and Treasurer, whose duties shall be those usually performed by such officers, who shall be elected by ballot, and hold their offices for one year, or until their successors shall be elected.

ART. 3. The President, Secretaries and Treasurer shall constitute an Executive Committee.

ART. 4. Any person may become a member by giving his or her name to the Secretary.

ART. 5. This association may, from time to time, elect suitable persons as honorary members.

ART. 6. No member shall be entitled to the floor more than five minutes in the discussion of any motion, resolution or petition without the consent of the association.

ART. 7. All committees shall be elected by plurality vote, except by special resolution.

ART. 8. This constitution may be amended at any annual meeting, by a two-thirds vote of all the members in attendance.

The usual formality of adopting the constitution as a whole was dispensed with.

A committee of five was appointed to go around the room and obtain signers to the constitution.

Election of Officers.

After the committee had gone around and obtained names the association went into the election of officers.

Mr. King, of New York, nominated Mr. L. L. Langstroth, of Oxford, Ohio, for the office of President. There were no opposing candidates. The Rev. L. L. Langstroth was, upon ballot, elected unanimously.

Mr. Langstroth said that as a compliment he would accept the position, but only on the condition that none of the active duties of the office devolve upon him, as his health would not allow him to undertake them. The convention signified its unanimous consent.

Balloting for Secretary was declared next in order. Nominations were made and the ballots taken as follows: D. L. Adair, of Kentucky; H. A. King, of New York; W. E. Ladd, Newport, Ky.; H. W. Stevenson, of Cincinnati. The Rev. H. A. King, of New York, was elected Secretary on the first ballot. The ballots for each candidate were not read.

Vice Presidents.

Vice Presidents were chosen as follows from all the States represented: New York, the Rev. E. Van Slyke; Kentucky, H. Nesbit; Missouri, L. C. Waite; Iowa, Mrs. E. S. Tupper; Wisconsin, A. H. Harte; Illinois, L. C. Francis; Ontario, Canada, the Rev. W. L. Clark; New Jersey, E. J. Peck; Pennsylvania, Seth Hoagland; Ohio, A. Benedict; Tennessee, Dr. T. B. Hamlin; Kansas, L. J. Dallas; Minnesota, A. D. Seward; Michigan, A. S. Moon; Indiana, Dr. John F. Wright Assistant Secretaries were next elected. Two were to be chosen. The election was as follows: D. L. Adair, of Kentucky, and L. C. Waite of Missouri.

The Treasurer was next chosen. Mr. N. C. Mitchell, of Indiana, was elected.

The Association Organized.

The Chairman announced the association organized, and gave way to the President, Mr. L. L. Langstroth, who suggested that the Vice President from New York, the Rev. E. Van Slyke, should preside.

Mr. Van Slyke took the chair, and announced the convention ready for business.

A Step for Union.

Mr. Clark, the retiring temporary President, offered the following resolution, which was unanimously adopted:

"*Resolved*, That this association, when it adjourns, adjourn to meet at Cleveland, O., at 9 A. M., on the first Wednesday in December, 1871, at the same time and place as the North American Bee Keepers' Association: when, provided the other organization shall instruct its officers to do the same, the officers of this body shall resign, with a view of there and then consolidating both associations into one."

On motion of Mr. Peck, amended by Dr. Clark, Mr. King, Mr. Peck and Mr. Otis were appointed a committee to confer with a similar committee appointed by the North American Bee Keepers' Association, with a view to a union of that with this organization, and report the same to this association.

On motion, adjourned till half-past seven o'clock in the evening.

EVENING SESSION.

The association met at half-past seven o'clock, Vice President Van Slyke, of New York, in the chair.

The following committee, to report an order of business, was appointed: Messrs. Clarke, Peck, Moon, Baldwin and Ladd. While the committee was out, some one suggested as a matter for discussion the Italian bee. Several persons were called upon, and all, with one consent, began to make excuses. Mr. Waite, of St. Louis, Missouri, was suggested. Mr. Waite is deaf and had to be waited on by some one who went to him. Mr. Waite is a young, handsome, neatly dressed man. He arose and set out to read an essay on bee culture, written in a very attractive style and abounding in humor, as well as in what seemed to be excellent practical hints. He said that in the management of bees no one must ever show the white feather. They did not like drunken breath. He opposed the use of tobacco smoke as injurious, and recommended the use of the smoke of rags or rotten wood instead. Some farmers, he said, gave their bees all the inattention they could. For such farmers, or bee keepers, he thanked God for the moth. There were an abundance of hives patented, and but few of them worth having. He favored large boxes as best adapted to having large supplies of surplus honey laid up. He gave, in detail, hints for the care of bees during all seasons of the year. His address, or rather essay, was warmly received, and the association tendered him its thanks.

Mr. Clark, of the Committee on Business, submitted the following order of business, which was accepted :

Order of Business.

1. The most successful winter management of bees.
2. The best method of artificial swarming.
3. How far is it wise to prevent swarming?
4. Are hybrids better than pure Italians.
5. Volunteer topics.

The First Topic

came up for discussion. Mr. Hosmer, of Minn., said his experience was that small swarms wintered better indoors than large ones. He wintered in a cellar well ventilated. He did not want less than a quart of bees to a swarm. He preserved queen bees and divided his swarms. He fed them about five pounds of crushed sugar (to each swarm) per year, commencing in March.

Dr. Bohrer, of Ind., said that a large colony and a small colony would not winter well together in the same room, owing to large colonies generating an undue amount of animal heat. The small colonies, under such circumstances, were apt to contract disease. He would have a special repository for small colonies, where the thermometer might be permitted to range about 45° or 50°, while between 32 and 40 degrees Fahrenheit was the temperature favorable for large colonies.

Dr. Bohrer would use an old blanket in covering hives, and corn cobs for the top of them to prevent the accumulation of moisture. He would not have a hive more than 12 inches deep. He believed in perfect neatness in his bee house. He was an enemy to spiders.

Question by a delegate—Would not spiderwebs be a good moth trap?

Mr. Bohrer—The best moth trap is a strong colony of bees. [Laughter.]

Mr. Gallup was hostile to tall hives. They became too hot at the top.

Mr. Gallup was subjected to a running fire of questions. He used no honey board in his large hives.

Mr. Gallup stated that he put his large colonies near the floor in the wintering house, and the small ones near the top or roof.

Mr. Dallas, of Kansas, thought the indoor method of wintering best. He would have a deep, well-drained trench upon dry ground. Over this he would build a double walled house, the interstices between the walls filled with sawdust, the house provided with ventilators and double doors. In this he would put the bees after equalizing the swarms. Care must be taken to protect from dampness and too great a change of temperature in the ventilation from opening the door or the special appliances for the purpose.

Mr. King, of New York, said he called a hive ten and a half inches in depth, as spoken of by Mr. Gallup, a deep one. He recommended the construction of a winter bee-house, so as to answer the purpose of handling bees, taking honey from them, &c.

Mr. Wright, of Indiana, said he had found benefit to diseased swarms from putting a cloth over the top of the hive and placing fresh charcoal pulverized upon it. This absorbed impurities and improved the health of the bees.

Mr. Porter, of Minnesota, detailed an account of a travel north in his State into the Red river country. He thought he had gotten away from the bees, as he had inquired for a hundred miles for them, and found none; but at the head waters of the Red river of the North he found an Indian who said he had found bees near there (it was 200 miles north of St. Paul), and taken two pailfuls of honey from them.

He detailed how he had kept bees in a cellar in which he had four hundred bushels of rutabagas. "It is no trick at all to raise bees, and no trick at all to winter them. Thermometers were humbugs. He had known bees wintered without a particle of ventilation in a pit covered with straw, then a little water, then dirt. He did not believe in the different diseases that it was said bees had. Their diseases were in nineteen times out of twenty, and the twentieth time too, caused by uneasiness.

Mr. Clark, of Toronto, Canada, said that Sir Robert Peel used to say in Parliament, "Ireland is my difficulty." He would say wintering bees was his difficulty. His experience was that the best wintering temperature was about the freezing point. He believed that no rule could be laid down for wintering bees in all climates. In Toronto, where he lived, the thermometer was 16° below zero last Sunday. Here he found it disagreeably warm. His experience was that the best temperature was such a one as would keep the bees in a torpid state, and keep them at the same time supplied with fresh air.

Mrs. Tupper, of Brighton, Iowa, said that for twelve years she had been successful in cellar wintering.

Mr. Scott, of Kentucky, said that he lived as far south as the Blue Grass region, and would like to hear about outdoor wintering.

Mr. A. F. Moon, of Michigan, said he had found the best success in outdoor wintering. He equalized his colonies before winter came. He sheltered them from the sun and on the north and west sides from the weather. He found they consumed one-third more honey in this way than in indoor wintering. He divided the bee bread, so as to equalize the food for different stocks.

Mr. Mitchell and Dr. Claypool spoke on the same subject.

The Chairman, the Rev. Mr. Van Slyke, said he had upon one occasion wintered a hive out of doors on nine pounds of honey.

Mr. Hamlin, of Tennessee, gave his experience in outdoor wintering. He equalized his stock and regulated the ventilation to the strength of the swarms. He had used for a covering of the honey boards, straw, corncobs or hay. Year before last he had a hundred and fifty-six swarms, and lost none of them.

Adjourned to 9 o'clock next morning.

SECOND DAY—FORENOON SESSION.

Third Topic.

How far is it wise to prevent swarming? was the third topic.

Resuming the programme of yesterday, Dr. Bohrer, of Indiana, said the answer to this question depended upon whether the object was to produce the largest amount of surplus honey or the multiplication of colonies. If the former was the object, swarming should be entirely prevented.

Fourth Topic.

Are hybrids better than pure Italians?

Dr. Bohrer said that if the bee keeper wanted to get up a fight early in the spring, the hybrids were the bees to have.

Mr. Root said the hybrids were good workers on white clover. The pure Italians made honey from flowers that other bees would not touch.

Mr. C. F. Muth, of Cincinnati, said he had hybrids, and had never had any difficulty with them about stinging.

General Adair said that he believed we had two varieties of native bees in the United States. The large gray bee, a distinct species from the black bee of the South, was, he believed, better than the Italian bee, and was not as vicious.

Mr. Stevens, of Glendale, said he had the gray bee, and had always had it, and preferred it to the Italian bee.

Mr. Peck said a black queen fertilized by Italian drones brought forth gentle hybrids, but an Italian queen fertilized by black drones brought forth a vicious brood.

Mr. G. W. Zimmerman had his black queens mated with Italian drones, and found the resulting stock much more energetic than others.

Mrs. Tupper, of Iowa, would get pure importations from Italy frequently—that is, of queens—and put them in hives if she wanted the best work of her bees.

Fifth Topic.

The cause of bee swarming constituted the fifth topic.

Mr. Otis said his opinion was that swarming of bees was owing to the storing instinct, together with the antipathy of one queen against any other queen in the same colony. A hive became stocked with honey and supplied with two queens. and it was found necessary to divide.

Dr. Claypool said he had last year one stand of bees that became overstocked, laid outside the hive, but did not swarm.

Mr. Root said that in a half dozen instances, he had taken every drop of honey from a hive and cut out every queen cell, and the bees swarmed.

Mr. Barger said he had seen the queen drop in front of the hive and the swarm leave. He had also seen ten queens go out with one swarm.

Mrs. Tupper believed, also, at one time in her life, that bees never swarmed without a queen cell, but last summer she found the contrary. She did not have an Italian colony swarm, last season, that had a queen cell.

Gen. Adair said that last year he had a large number of swarms in which no preparation for swarming was made.

Mr. Moon had put bees in a hogshead and had them swarm. He had put them in a salt barrel, and found they would swarm when the barrel was only one-third full.

Mr. Langstroth said that if there were no disposition on the part of bees to swarm we should soon have an end of bees. He said no invariable rule could be laid down in regard to swarming.

Sixth Topic.

What are the troubles to be met with in bee keeping? This broad, endless question formed the sixth topic.

Mr. Moon enumerated the chief difficulties as swarming and going to the woods, the moth, robbing and wintering.

Mr. Porter, of Minnesota, said he had had his share of trouble with them. He would rather undertake to find ten Italian queens than one black queen. A feather or bristle brush were either of them very irritating to bees. A willow broom was better in handling them. He detailed his experience in introducing a fine Italian queen into a hive of black bees. He killed the queens of the black colonies and put his Italian queen in, then next day looked and saw her dead. He watched the hive closely, and at one time saw a small bee laying. He often found six or eight eggs in a cup. He came to the conclusion they needed food under these circumstances. He gave them food, and all was right after that. He was satisfied that where the bees had not honey the queen would lay a great many eggs in the same cell.

Mr. Langstroth said he had known foolish queens to put a multitude of eggs in the same cell. He had known queens to deposit eggs outside the cell, and that queen fertilized.

Gen. Adair had also known queens to deposit eggs outside the cells. He had found this in the case of queens fertilized in confinement, and had known the same queen to act properly when she had been permitted to leave the hive for fertilization.

Mr. Clark, of Canada, said that a great trouble in bee keeping was the lack of determination to succeed. Lack of attention to details was the cause of much failure.

Mr. Hart told of a visit to a friend of his in the Western part of Ohio, where he met a lot of bee keepers. None of them had a book on the subject of bee keeping, and none of them took a paper on the subject. He advised them to form a society of bee keepers, and they did so. He has heard from them since, and their success has been much greater than formerly. Ignorance was the great cause of failure, and there was no lack of it.

The Secretary gave notice of the expenses of the association as $8 per day for the hall. Nothing more, unless a report of the meeting was printed, which was desirable. A collection to defray the expenses was taken up, amounting to over $50.

A petition was circulated, to be sent to the State Legislature, praying that body to enact a law to protect bee keepers from thefts of bees, especially in the spring.

AFTERNOON SESSION.

The association met in regular session, Vice-President Van Slyke in the chair.

Seventh Topic.

Is the Italian bee superior to the black bee? was the topic for discussion.

This topic had incidentally come into the discussion under other topics. The almost universal testimony was that the Italian bee was a better honey gatherer, more prolific and more tractable than any other bee.

Mr. Dallas said that the Italian bee would gather honey from watermelon flowers. Another speaker said it would make honey of the melons, but was fastidious. The melon must be a good one.

Eigh'h Topic.

Will the drone progeny of a pure Italian queen, fertilized by black drones, produce pure Italian drones? This knotty question was announced as the eighth topic.

Mr. Root said the theory was that drones were the product of the eggs of an unfertilized queen or a fertilized worker. Drones were also produced by fertilized queens, and the queen could lay drone eggs or worker eggs at pleasure. It was said that only the drones from a fertilized queen could fertilize a queen.

Mr. King said the object here was not to discuss the book theories, but if possible to controvert them and bring out something new.

Mr. Mitchell said he would not give a pewter cent for an Italian queen impregnated by a black drone. He believed the queen thereby received a taint that she never got rid of.

Prop sed Testimonial to Mr. Langstroth.

Mr. King arose, and upon a suspension of the order of business, stated that Mr. Bickford had written to the American Bee Keepers' Journal an article suggesting that the bee keepers of America owed a lasting debt of gratitude to Mr. Langstroth, now the President of this association, and that it would be proper for them to raise for him the sum of $5,000. The Rev. Mr. Van Slyke had, without knowing anything of Mr. Bickford's action, written to him, making the same suggestion. He said that Mr. Langstroth was not an object of charity. The bee-keepers of the country were indebted to him. His health was not good now. He first made high bee culture possible by his genius and industry.

Mr. Van Slyke took the floor and said that the bee keepers of America owed a lasting debt to Mr. Langstroth, as the introducer of the movable frame hive.

The call was made for volunteer subscriptions. The following contributions were made: The Rev. H. A. King, $50; A. I. Root, $50; T. B. Hamlin, $50; Mrs. Ellen S. Tupper, $20; Messrs. Delland & Scott, $20. Subscriptions stopped here.

Mr. Root said that Mr. Langstroth's introduction of the movable frame hive had revolutionized bee culture and made the rearing of Italian queens possible.

Mr. Clark, of Canada, said that he was told that if Mr. Langstroth had his rights he would now be well off. He would rather subscribe to a fund to prosecute men who had infringed upon his patent and make them disgorge, than give directly to aid him.

Mr. Otis said that Mr. King had advertised Mr. Langstroth as an object of charity. He himself would give $500 for justice to Mr. Langstroth.

Mr. King—I will give $1,000, and draw the check now.

Mr. Otis—I would have you, Mr. King, prosecuted for your two worthless patents infringing upon Mr. Langstroth's patents.

The Chairman—This is personal and must be stopped.

Mr. King moved to refer this subject to a committee of three appointed by the Chair, the committee to report.

The Chair appointed Messrs. King, Root and Hamlin as that committee.

On a subsequent motion Mr. Clarke, of Canada, was added to the committee.

Mr. Otis wanted to have that committee take the $500 of his and the $1,000 that Mr. King proposed to give for justice, and use it properly to care for Mr. Langstroth's interests. It would not be long till he would be well off, if that were done.

Mr. King said he could repel Mr. Otis' insinuations, but he did not choose to do so in this meeting.

Mr. Mitchell said that he was sorry this matter had taken the turn that it had. He himself had just perfected an arrangement whereby Mr. Langstroth would be greatly benefited.

Mr. Otis here rose up, and said he was glad to hear Mr. Mitchell speak so. Every hive he (Mr. Mitchell) had sold was an infringement upon Mr. Langstroth's patent.

Mr. Mitchell was unanimously added to the committee.

Mr. Otis controls a large amount of territory for the Langstroth patent hive.

A short time was given to exhibitors to show their inventions, which they availed themselves of. Several bee hives were exhibited. Gen. Adair explained an excellent device for fertilizing queens; also one for arresting the queen when a swarm was coming out. One instance was related of arresting a queen and the swarm went to the woods, staid seven hours and returned to the parent hive.

Paper by Mr. Gallup.

Mr. E. Gallup, of Iowa, read a paper entitled "Successful bee keeping in a nut shell :"

"The great secret in successful bee keping consists in knowing how to keep all stocks strong, or having them strong with brood in all stages, nursing bees and outside laborers at the commencement of the honey harvest. To illustrate this : A and B both have the same resources in their respective localities, or we will say that both reside in the same locality, and their honey harvest commences on the first of June, and the last half of July and first half of August there is no forage for bees. June and the first half of July is good, and the last half of August, and the month of September is good.

A commences in spring to stimulate, equalize, &c., and replaces all old queens or queens that do not come up to the standard of fertility with young prolific queens, allows but little increase (that is, providing surplus honey is the object). Here I will remark that with young prolific queens and abundance of room there is but very little danger of increase, and on the first day of June when the harvest commences he has every stock completely filled with comb brood in all stages, nursing bees in abundance, less than sixteen days old, honey gatherers over sixteen days old, and they are in the very best possible condition to commence storing surplus honey immediately. Then during the scarce time, in the last of July and first of August, stimulates and keeps up the fertility of the queens until the harvest again commences in the middle of August. His bees are then ready to commence storing surplus again as soon as the harvest commences. The consequence will be that A receives a profit in surplus honey, and pronounces the season a good one. In fact, meets every one with a smiling countenance, and is well satisfied that bee keeping pays, &c. On the other hand, B commences with the same number of stocks, in the spring, lets them manage themselves, and on the first day of June they are not in condition to store surplus, or at least but very few of them, and those few he allows to swarm themselves to death, or which amounts to about the same thing, when the honey harvest commences his stocks commence breeding very rapidly, and by the time his stocks get in condition to store honey the harvest is done, or nearly so, for it takes twenty-one days to hatch out a worker, and six teen days more, or thereabout, before they commence laboring outside, &c. Now the scarce time comes on again, and B has got no surplus honey, but perhaps has a number of extra swarms. The queens stop breeding entirely, or nearly so, especially so if the forage is entirely dried up or cut off. Now, when the honey harvest commences, in the middle of August, his stocks, instead of being in condition to commence storing, have to go to raising brood again to replenish their stocks of workers, for recollect that the brood hatched in June and July is very soon used up with old age, for the lifetime of a working bee is only from six to eight weeks during the working season. Now, you can readily see that B's stocks are expending all their force and energy to replenish their numbers again, and by the time they are ready to commence storing the harvest is past, and B has any quantity of stocks that he has to feed in order to carry them through the winter, or he has to double up stock, &c., and when he comes to sum up the season's operations he has received no surplus honey, and his surplus stocks, or a large proportion of them, have either to be fed or doubled up, in order to winter them, and the consequence is, his face is somewhat elongated, and his conclusion is that the season has been a poor one for bees. He has certainly had bad luck, and he is ready to attribute his luck, as he calls it, to anything but his own neglect or carelessness For example, the season has been a poor one for bees, or his climate is not adapted to bee keeping, &c., A, with his management, in the same locality, mind you, has had good luck, as it is called. His stocks are all in excellent condition for wintering, no doubling up or feeding in winter, &c., for he has fed at the proper season to feed, for I hold it to be a fixed fact that the summer and spring is the proper time to feed. Keep your bees in the right condition to store honey, and when the harvest comes they will store it. There may be seasons and localities where bees have to be fed in winter ; but I have never seen such when they were properly taken care of in the summer. The whole secret of successful bee keeping is contained in the above nut shell.

"The very first knowledge sought by the new beginner in bee keeping should be the above.

"Orchard, Iowa. ELISHA GALLUP."

Mr. Gallup's paper was well received.

Mr. King stated that in New York mel-extracted honey did not sell well. The fact that dealers in the article in New York reported no sale last fall had suggested the advisability of forming a honey company or association. The object of such a company was to secure an equality of the supply and prices in all the cities in the Union. He had thought of having mel-extracted honey made into a substitute for rock candy.

He said that a great honey merchant in New York said that if some way was not devised to make a market for extracted honey there would soon be no market for it. He did not think here was the place and now the time to organize a company, seeing that the two national associations would meet in Cleveland in December next.

Mr. Moon was called to the chair and Mr. Van Slyke spoke of the chemical nature of honey, and its capacity for being manufactured into candy. It was not of the cane sugar class. Honey was grape sugar, with a small proportion of cane sugar. Its composition was six atoms of carbon, twelve of hydrogen, and six of oxygen.

It was made susceptible of crystallization by treating it in the candied state to two and a half parts of alcohol to one of honey, subjected to pressure, then treated to one-tenth part of alcohol, warm. Then it would form semi-circular candy crystals. Another method was to put candied honey on bricks, allow the bricks to absorb the cane sugar element, then treat it with alcohol. The result was beautiful acicular or needle shaped crystals—a candy retaining all the flavor of the honey, in the comb. The uses of honey in pharmacy, in domestic use and in the arts, were not sufficient to consume the quantities offered in the American market.

Mr. King said honey could be hardened so as to flint off by heating. This might be sold in railroad cars as candy.

Mr. Muth said he had some of his honey in jars candied, and he simply put the jars in warm water and it became liquid.

Mr. Peck, of New Jersey, said that the consumption of honey must be encouraged. The price must be put down so as to enable the poor to use it. It might be sold at ten cents a pound, and would redound ultimately to the advantage of bee keepers.

Adjourned to meet at half-past seven in the evening.

Evening Session.

The association met at half past seven o'clock, a good number of delegates present and Vice-President Van Slyke in the chair.

Ninth Topic.

What are the best honey producing plants to cultivate in a poor-honey district? This was the topic for discussion. Mr. Root preferred basswood. He did not know how long the bees worked on it. He thought the basswood flower was the only flower that produced honey that produced sickness.

Mr. Dallas, of Kansas, said that in Kansas there was no basswood, yet, with some persons, the eating of honey produced in that State was attended with sickness. White clover honey was his favorite.

General Adair found a variety of turnip very excellent for a pollen producer. There was also a shrub called the Aralia Spinosa, which bore one of the best honey producing flowers. He had a few of them, and when in bloom they were covered with bees. He had never seen any buckwheat honey.

Mr. Porter, of Minnesota, said buckwheat was one of the best honey-producing plants in the country. He had saved a swarm that came in the middle of September, and owed his success to buckwheat. A good plant, in Minnesota, for honey was the golden rod. Raspberry flowers were good honey-producers. He also favored basswood. The dandelion was one of the best as well as one of the earliest honey plants. He had seen a variety of the lilac that would make as good a hedge as the Osage orange, and which was a fine honey-producing plant. The willow also was good.

Mr. Langstroth endorsed what Mr. Porter said about the honey-producing plants generally. He said there was no honey at all in the buckwheat. He had gone over acres and acres of it, and had not seen a bee upon it. Again, he said the buckwheat was one of the best honey-producing plants. He had gone through acres of it and found it laden with bees. Much depended on climate, season and location; south of here it was worth little for honey. So with white clover. Some seasons it was good and some bad for honey making. The same was true of the golden rod. He meant these remarks to show the different and contradictory observations that might be made from different standpoints, and to show the need of charity in comparing experiences.

The Rev. Mr. Van Slyke said that near New York city there was plenty of golden rod. His bees last season did not make any honey till the golden rod bloomed, and then they made great quantities.

The Mel-extractor.

Mr. Langstroth was requested to speak on the subject of the mel-extractor and its relation to bee culture. He said that in 1853 he became interested in the subject of extracting honey from the comb and using the comb for the bees again. He consulted mechanics. None of them helped him. If any one had said to him centrifugal force, he would have said eureka. A foreigner discovered the process. This discovery would again revolutionize bee culture in this country. Twice or thrice the amount of honey could be produced from the same stock of bees and the same care now as formerly without it.

Now, some means must be devised to disarm the public of the suspicion that the extracted honey was a manufactured concoction. The candying of honey was not an objection. Age did not hurt it. He tasted some twenty-five years old, and it was good. He had good authority for saying that good honey was taken from the ruins of Pompeii, nearly two thousand years old.

As to Italian bees, he found that often they built in boxes from the bottom upward, while the black bees worked from above downward. It was more difficult to get Italian bees to work in boxes than it was to get the black bees to do so. We have got to convince the public that this extracted honey was not adulterated. The way was to put the price down so that adulteration would be unprofitable. He thought the more the knowledge of how to manage this extraction and perserving of honey was diffused and acted upon, the better it would be for bee culture.

He suggested the use of blue grass with which to brush off the bees from combs. He had experimented in artificial combs, and the result had been just nothing at all. He had doubts about the bees using metallic combs for wintering. He hoped that the invention of artificial combs would be successful, in which, even if the bees could not be induced to breed, they might deposit honey, for emptying.

A vote of thanks was given to Mr. Langstroth.

Mr. Langstroth added, in relation to young queens, that he had ascertained that the supposed enmity of bees to all unfertilized queens was a mistake. He had put a very young unfertilized queen on the opposite side of the comb on which a fertilized queen was walking. A bee would sometimes stop and stare at the intruder, as much as to say, "Does your mother know you are out?" Sometimes they would hustle her out of the hive, nearly killing her. Experiment only with *very* young queens.

Mr. Langstroth being called upon again, said he thought the drone progeny of an Italian queen would be pure Italian drones, be the drone by which the queen was fertilized, a black drone or an Italian drone. He said that when the Italian bees were first introduced into the country there was opportunity to test the theory. He said that in warm blooded animals where there was a common circulation between the mother and the unborn offspring, there was a decided influence exerted upon the mother. Mares that have produced mules had years afterward produced horses with mulish characteristics and of mule-like build.

Mr. Moon said that the drone progeny of an Italian queen, crossed from a black drone, was of a lighter color than the pure Italian drones.

Mr. Langstroth said there was every reason to believe that the Italian bee was itself a hybrid. Long before the Egyptain bee was introdeced into this country, there was evidence of a bee in America with a tuft on the head like the Egyptian bee. It was said, too, that the Italian bee could be produced from a cross with the black bee.

In regard to the fertile worker, he said that Huber thought workers had robbed a little and eaten of the ambrosia with which the queen was fed. Then they might be bees produced in imperfect queen cells *i. e.*, cells not quite large enough for a queen, and a little larger than that in which the worker was produced. He said instances had been found in which the head of the bee was a drone and the anterior part a worker. and *vice versa*. This was accounted for upon Mr. Wagner's theory of a double germ.

Mr. Gallup gave an experience of his in which he discovered a queen, with the forepart of the body that of a drone.

Mr. Langstroth said it was possible for a worker grub or egg to be cultivated by the bees and formed into a queen.

Mr. Moon gave his experience as to honey-producing plants. In dry seasons honey-producing plants failed. While in good seasons they were rich in sweetness.

Mrs. Tupper said that in the region in which she lived there were honey-producing plants all the season. She had buckwheat sown at various times, early and late every season. The weather made a difference. Wild cherry made a great deal of honey, but it was unpalatable, as it had the bitter taste of the tree. The Alsike had been good. She believed in sowing for the bees plants that could be used for something else.

Mr. Peck said he found a plant in the Southern States that was the best of honey-producing plants, but he had never heard a name for it. The honey from it smelled like verbenas.

Mr. Van Slyke said he had received the flower of the tree spoken of by Mr. Peck, and had named it, but could not remember the name.

Mr. A. J. Markley wanted to know if the blackberry was a good bee plant.

Mr. Van Slyke said as far as his experience went the blackberry was not good.

Tenth Topic.

This was the question—"What is the benefit of salt to bees?"

Mr. Zimmerman said the bees were fond of it. When put under the hive it prevented ants from innovating the hive.

A member said that he had learned from an old and successful German bee keeper that he had put salt upon the alighting board, and had never lost a brood of bees.

General Adair said he found salt a good disinfectant among bees during bee cholera.

Eleventh Topic.

This topic was "the best method of introducing queens." Mrs. Tupper was called upon. She scarcely ever lost a queen in introducing her. She first detached a colony, put the queen with it, then took the bees from the hive away and allowed them to return a few at a time. The detached colony she put in a new hive, precisely like the old one. Another way was to put the queen in a wire cage and cover the end of it with a thin coating of wax and put it in the hive. In twenty-four hours afterward, or thirty-six at most, the bees would liberate her. Then they never hurt her.

Mr. King said he had lost five queens in that way. There was a smell about imported queens that bees hated.

Mr. Wright put the bees in a large cage, and introduced with her thirty or forty of the colony she was to preside over, one at a time. He would allow them to stay with her thirty-six hours, then would liberate her with them in the hive.

Mrs. Tupper had succeeded by taking the queen from a hive, agitating it, and then introducing the new queen.

Mr. Porter had smeared the queen with honey and introduced her.

Mr. Wright had seen queens deformed by having their wings gnawed off by the other bees in the cleaning process when smeared with honey.

Mr. Benedict removed the old queen and introduced the new one at once. He first dipped her in sugared water.

Mr Muth had done the same way, and had only once failed.

General Adair had had queens stay in the hive two days, and then be killed. In a particular instance a swarm killed eight queens, and obstinately refused a queen afterward. He usually caged a queen for several days in the hive she was to rule.

Mr. Zimmerman had a refractory colony, and by halving it and another colony, and creating out of them two colonies, one-half of each of which was strange to the other, he introduced the queen to the queenless colony, where she was well received.

Mr. Markley gave an amusing account of his difficulties in introducing queens, and his experiments in what he termed "bumbleizing" the black bee. In the latter process he introduced a bumble bee in his hive and failed.

Mr. Furman had met and conquered the difficulty complained of by Gen. Adair by removing the bees from the hive, putting the queen in with the comb left in the old hive, then taking to a distance the hive to which the colony has been transferred, and allowing the bees to return a few at a time to the original hive. The queen to be supplanted must first be removed.

A letter was read from Mr. K. P. Kidder, of Vermont, first excusing his absence from the convention, then offering suggestions for that body. He suggested that it would be better for bee keepers to strengthen and increase the size of their stocks than to multiply their number. It also recommended the new swarming system. Received and ordered to be placed upon the records.

Mr. King offered a resolution that the association tender a vote of thanks to the various roads that had reduced fares to delegates attending it; also a resolution of thanks to the hotel keepers of the city that have entertained delegates.

Both resolutions were adopted unanimously.

On motion of Mr. Peck, the matter of electing honorary members was referred to a committee of three, viz.: Messrs. Peck, Moon and Adair.

Adjourned to meet at 9 o'clock next morning.

THIRD AND LAST DAY—MORNING SESSION.

The convention was called to order at 9 o'clock yesterday morning, Vice-President Van Slyke in the chair, and a comparatively large number of members present.

Honorary Members.

Mr. Peck, of the Committee on Honorary Membership, reported as follows, viz.:

"The Committee on Honorary Membership would report that in their view the title of honorary member of the American Bee Keepers' Association should be conferred as a distinguished mark on those who have assisted the bee keepers of North America in improvement and progress in the science of apiculture, and that such title shall be relieved from all taint of a mutual admiration society, and would therefore recommend the following persons for honorary membership: T. W. Woodbury, Mount Radford, England; F. W. Vogel, Lekmanshöfel, Prussia; Rev. George Kleine, Luethorst, Prussia; Andrew Schmid, Eichstadt, Bavaria; Rev. John Dzierzon, Carlsmarkt, Silesia; Baron A. and Baroness L. Von Berlepsch, Munich, Bavaria; Prof. C. T. E. Von Siebold, Munich, Bavaria; Maj. F. Von Hruschka, Dolo, Italy; Doctor A. Dubini, Milan, Italy; Viscount De Salietto, Milan, Italy: A. S. Packard, Salem, Mass.; C. V. Reily, St. Louis, Mo. It might be claimed that some of the prominent bee keepers of this country should be included in the above list, but as they have already been voted members of the great family of bee keepers of North America, the committee deem it improper to again reiterate the universal expression of such opinion.

"E. J. Peck,
"A. T. Moon,
"D. L. Adair,
"Committee."

Mr. Clarke, of Canada, objected to the preamble and to the explanation in the conclusion, as an implied criticism upon the action of the North American Bee Keepers' Association, formed at Indianapolis in December.

Mr. Peck said that the preamble and concluding explanation would prevent all misinterpretation of the report, and neutralize all tendency to mischievous influence.

On motion of Mr. Peck, a vote of thanks was given the Associated Press and the press of the city for full reports.

On motion of Mr. Peck, a standing committee of five on transportation was appointed to provide for reduced rates of fare to the Cleveland meeting, viz.: Messrs. Moon, of Michigan; Mitchell, of Indiana; King, of New York; Waite, of St. Louis, Mo., and Clarke, of Canada.

Dr. Dillard, of Kentucky, moved to appoint a committee to select persons to prepare papers to be read at the next annual meeting of the association. Carried.

A resolution was passed recommending the forming of auxiliary State, county and city organizations in all parts of the country, and that the journals of apiculture and agriculture in general be hereby solicited to publish this request.

Gen. Adair wished to explain his remarks, on a former occasion, during the session of the convention, about two varieties of bee in the United States. He said that he had stated that he believed the gray bee, in its purity, might be probably as good as the Italian bee. He did not state it was as good. The cross of the Italian bee with the gray bee was less vicious than the black bee cross. As you go in the extreme South the black bee disappears, and as you go North the gray bee disappears. The gray bee was found, in its purity, on the Rio Grande. He wanted, in speaking of the gray bee, to call attention to the possibility of our having a bee in this country whose value we may have underestimated, or not yet learned.

The Testimonial Committee.

Mr. Clarke, of Canada, of the Committee on the Langstroth Testimonial, reported as follows:

"The committee to whom was referred the matter of a testimonial or donation to the Rev. L. L. Langstroth, beg to report that after a protracted, thorough, and to some extent, confidential investigation they have come to the following results:

"1. They find that owing to a series of untoward events, Mr. Langstroth has received but very meagre compensation for his great services to American apiculture.

"2. That Mr. Langstroth, in his old age, is not only in straightened circumstances, but is afflicted with a malady which renders close and continuous thinking perilous to him, so that he is precluded from application to study or business.

"3. That in view of all that Mr. Langstroth has done to promote the interests of bee culture, it is incumbent on the apiarians of America to make an effort for his comfortable maintenance in the decline of life.

"4. That in furtherance of this object the following measures be taken, viz. :

"That the Vice President, Secretaries and Treasurer of this association be organized into a committee, to be called the Langstroth Testimonial Committee.

"That a general appeal be made for subscriptions on behalf of this object, as proposed and commenced by Mr. King at the meeting of the association yesterday.

"That a proposal, submitted to this committee by Mr. N. C. Mitchell, to furnish a large photograph of Mr. Langstroth to all and sundry at one dollar, out of which at least seventy-five cents shall go to Mr. Langstroth, be published as widely as possible, with the warm approval of this association, in the belief that a large multitude of persons, bee keepers and others, will be anxious to possess themselves of such a *souvenir* of one who has so distinguished himself in the domain of apiculture.

"That whatever is obtained in the ways above enumerated be transmitted to Mr. N. C. Mitchell, by him conveyed to the Rev. L. L. Langstroth, and reported to this association as part of the Treasurer's official statement.

"All of which is respectively submitted.

"Wm. Clarke, Chairman."

On motion, it was agreed to make the price of the photographs one dollar without and two dollars with Mr. Langstroth's autograph.

When the report was read, Mr. Langstroth said it was against his feelings to have his personal matters taken up by the association. If his own wishes were consulted, he would like the matter to go no further. He did not mean by these remarks to reflect upon the committee or the association.

Mr. Clarke, of the committee, said the committee had all the while been aware of Mr. Langstroth's feelings on this matter as just expressed by him.

Mr. Porter said he could not do too much for Mr. Langstroth. He felt paid for coming here by the privilege of seeing him.

Mr. Van Slyke hoped Mr. Langstroth would permit the matter to go on.

Mr. Moon was well acquainted with the feelings of the bee keepers in the country, and he could say that they would all feel it a privilege to contribute to this testimonial.

Mr. Mitchell said he had often been asked for a photograph of Mr. Langstroth.

The report was received and adopted.

Mr. Mitchell, of Ind , spoke of the Egyptian bee. He said they are beautiful little fellows. He took a lot of hives to the prairie. He found out that the Egyptian bees were cross fellows. They went out of the hive like a flock of quails. In his experimenting with them he used armor, but got stung fearfully, nevertheless. The bees stung the trees, the weeds, the dogs, the children, and everything. But he wanted to give them their due. They made more honey than any other bees he ever knew, but when they made it they meant to keep it. He was not certain his Egyptians were pure.

Mr. Proctor said he intended to go home and report the Egyptian bee a humbug.

Mr. Langstroth said he made a number of importations of the Egyptian bee to this country. He had never had an Egyption queen which he was sure was pure. His opinion was that the Italian bee was a cross between the Egyptian bee and the black bee.

Gen. Adair thought it doubtful if a pure Egyptian bee had ever been introduced into this country.

Mr. Langstroth said that "buffalo chips," and also the excrement of cattle, freed from all moisture, and burned, and the smoke used, was very effectual in taming bees for a while. It might be made to burn by dipping an end in kerosine. It should not be saturated. Columella mentioned this substance. It was, therefore, two thousand years old. The Egyptians used it now.

The association here adjourned. It will meet again in Cleveland in the month of December.

Of one hundred and forty signers to the constitution all but twenty reported themselves as bee keepers. Slips of paper were circulated on which members wrote their names, post office address, pounds of honey produced by them last year, price per pound, number of pounds of beewax sold, and whether the hive was a movable comb hive or the box hive. One hundred and twenty responded. We here give the aggregate result of their reports :

The total number of stocks of bees owned by these one hundred and twenty persons was 5,051. The number of pounds of honey produced by them last season was 83,065 pounds. It sold at an average (counting eighty-six persons who reported the price) rate of $29\frac{3}{4}$ cts. per pound. The number of pounds of wax sold by the same was 1,046. Of the 5,051 stocks, 4,612 were in the movable comb hives, and 439 in the box hives.

Many of the above reported stocks, probably more than half, were the increase of last season. A large number of the producing stocks were used in queen raising, which, when practised extensively, is incompatible with great production of honey. Many others were engaged in multiplying colonies for the market, which is also incompatible with honey producing. One of the bee keepers reports 390 hives and a honey product of 8,000 pounds. Another, a resident of this city, reports 90 pounds per hive last season from 20 hives on his house roof.

Everybody was pleased with the association and its results. It is to unite in December with another national association, and the two are to form one body.

Views were compared by men from distant parts of the country. Apparently contradictory experiences were reconciled. Mr. Langstroth was the recipient of an expression of gratitude, and will be of something more substantial, which has been long due him, but tardy in coming. By a unanimous vote of the Association he was given the special privilege of speaking when he chose, and as long as he chose. He solved many knotty questions, and poured oil upon the waters when they were troubled.

Among other things he explained the striking difference between black and Italian bees in their mode of working in honey boxes. General Adair told the convention about the gray bee of the South. Mr. Mitchell branded the Egyptian bee as an impracticable humbug, only from its fierce unrelenting combativeness, and its indomitable ill temper. This convention was to young bee keepers what a normal school is to teachers, what professional school is to the lawyer or physician—to experienced ones it was a professional conference.

The universal expression of the bee keepers was in favor of increasing the consumption of extracted honey, and the production also to such a degree that it will be within the means of the poorest classes. The formation of a honey company, not to keep the price of the article up, but encourage the consumption of it, was talked of. By extracting the honey and returning the comb for the bees to use again year after year the production of the article, it was said, could be doubled or trebled. Honey extracted could be sold for one-third or one-half the price of honey in the comb. Then encouragement was given to forming Bee Associations in every State, city and county. In very many instances this suggestion will be acted upon. It requires no prophet to name the result. Everybody knows how infectious experience and knowledge is when men meet in mass to confer upon what pertains to their avocations or professions. Iron sharpeneth iron. The improved practice and appliances in bee culture, the control of the bee and the knowledge of its nature so widely and rapidly diffused in the last ten years will spread with a tenfold increase of rapidity in the decade just now begun.

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[For the American Bee Journal.]

A Season in New Jersey, No. 2.

I found one swarm which had been reduced to less than a dozen bees, but I could not satisfactorily account for such reduction. A good queen was among them, and I soon introduced her to a colony of natives owned about half a mile away, being the nearest black colony. I traded for the hive and brood, and put the queen and bees in a box of empty combs.

The hive which contained the native swarm was about 18 inches high, and 7 by 9 inches across the inside. That was a real Jersey hive. It was perfectly guiltless of any arrangement for removing honey, and I have seen no hive in this place, except what I brought here, with so much as a place for a single box. Those persons who use this style of hive, also deem it necessary to *set up* the hive on four clam shells, to keep out the worms! Well, I brought home my hive and brood under one arm, and brushed off a swarm of Italians from their combs, letting them take possession of the box, and giving their brood to other colonies. I did not wish to transfer the brood to frames then, as I thought they would breed faster in that small hive than in a larger one, as it had more combs than they could then use. I put the whole swarm (which was small) in the hive, and in eight or nine days they commenced working outside of the hive. I had never before noticed bees of that age (eight days) working in the fields, and considered it as rather remarkable and worthy of notice. Ordinarily, I believe, the instinct for working in the fields is not developed until the bee is about fourteen days old; and the same idea has, I think, been advanced by others. Has it not, Mr. Editor?*

It seemed to be with them a case of necessity, as the older bees were swept away by the winds, not leaving enough of suitable age to gather stores for their daily wants. In process of time, however, the hive became filled with bees, and they were then transferred to frames. Blossoms were plenty, with honey in them, during a good part of April and May; but the bees did not increase or gather honey in proportion to the amount of forage.

I should here state, that during all this time my hives were exposed to the sun, wind, and rain, except the protection of the fence already mentioned. No shelter from trees, bushes, or any such thing; and they had been reduced during the winter by moving and neglect, so that they were not in a fair condition to start with, or in a fair place. Then, too, it was said to be an unusually rough spring, and the native bees did not swarm until June, whereas they usually swarm here from the middle to the last of May. But then, if I had known, "it might have been" different.

Now I propose to tell you what I mean to do about it. There seem to be three or four ways open. First, *not to* keep bees. Second, to go where these troubles do not exist. And, Third, to try and checkmate them—which I think I may, to some extent.

The first method of solving the difficulty, is out of the question, for a professional bee-keeper like me. The second may be the wisest course, and be eventually adopted; but I think of trying the third way.

I do not expect to contend with the Power that controls the winds and the rain; but I will shelter my little pets from some of the violence of these elements, for this purpose I have put up a shed, opening only to the south, with conveniences for ventilation in hot weather. The front will be so arranged, that I can have the sunshine strike the hives or not, as I may deem advisable. There is a semicircular space in front of the shed, which is enclosed with a grove of pine and oak trees, from ten to twenty feet high. This will certainly give some protection from cutting blasts and driving storms. By keeping the sunshine from the hives in early spring, the bees will not be tempted out unless the weather is abundantly warm enough. But, sure enough, they have got to live, and must gather their stores outside of my grove, or not be of any profit to me! O, yes, but I do not intend to encourage them to go away early in the season. To keep them at home, then, I will supply them liberally with flour as long as they will use it, feeding it when the weather is calm, which is usually from two to four hours in the forenoon. I will also keep them supplied with water and liquid honey; and by these means I hope to prevent an alarming loss and secure a fair increase.

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* By the introduction of Italian queens in colonies of common or black bees, the fact was ascertained, that young bees do not ordinarily engage in outdoor labor, till they are nearly two weeks old.

Whether I can do this, remains to be seen. Hundreds of acres of huckleberry blossoms here, yield a good supply of fair honey in May. Fruit trees, and large plantations of raspberries and other small fruits crowd in, one after another, giving a continued succession until the last of May, when clover comes in bloom.

The light soils of this region are favorable for the secretion of honey, when there is a sufficient amount of rain. Go where you will, and I do not think you will find clover producing much honey on a wet, heavy, clay soil; or at least not half so much, as a somewhat sandy or gravelly soil; provided, always, that neither is injured by drouth.

In my next I will give you my experience in buying bees to stock up with.

J. L. HUBBARD.

Bricksburg, N. J.

[For the American Bee Journal.]

Beekeeping Down East.

The season of 1870 was not a favorable one for bee-keepers in Maine, although the bees generally gathered sufficient stores to carry them through the winter safely.

Spring opened early and favorably, but fruit blossoms did not yield as plentifully as usual, consequently it became necessary to feed until the appearance of white clover, which yielded finely for about ten days, when it was suddenly cut off by the intense heat and drouth. Thus only comparatively few hives made any surplus—while many more were too light to winter.

Late in September I examined my stocks, to ascertain how many would have to be fed or united, and found, very much to my surprise and delight, that every hive had ample stores for winter, and for that "March hill," which is such a terror to beekeepers and so fatal to weak stocks in our northern climate. Having been unusually busy in my office for about two weeks, I was not prepared for such a pleasant surprise, but it was none the less agreeable on that account.

The bees had gathered an almost unprecedented amount of honey from golden rod and other late flowers, which was most fortunate for them, and us; although it did not recompense us for the *immense stocks* of surplus boxes, nicely filled with white clover honey that we were entitled to but didn't get.

I use the American hive, mostly, with quite satisfactory results. I think it has many good points, and a few bad ones, like all other hives with which I am acquainted. I do not believe that perfection in hives has yet been reached, but thanks to the movable frames, the honey extractor, and the light that has illuminated this heretofore mysterious pursuit, we are enabled to overcome hive *deficiencies* with *skilful management*, and prosecute this art with pleasure and profit.

I am wintering nearly all my stocks in the cellar. Their room is perfectly dark and quiet; not a ray of light penetrates it, and the bees are remarkably still. For upward ventilation, I simply removed the supers from the tops of the frames, without any absorbing materials whatever. The temperature is uniformly 32°. I have wintered bees in a great variety of ways, but never knew them to consume so little honey, cluster so snugly, and so few perish, as thus far this winter. I shall adopt this method in future, until I become persuaded that there is a better way.

The prevailing custom throughout this State is to leave the bees on their summer stands during the winter months, without any protection or preparation for cold weather and sudden changes of temperature. The natural result of such neglect is disastrous to a greater or less degree in nearly every instance.

We have in the State from twelve to fifteen thousand beekeepers, and probably nine out of every ten have not advanced beyond the old box hive—a most lamentable state of "bee darkness," truly. Yet this state of things is not attributable to unusual perverseness, or an unwillingness on the part of our people to accept improvements. It is mainly owing to the vast amount of trash that has been foisted upon them by unprincipled men, under the *guise* of *improvements*. Patent hives, without a single redeeming quality—moth traps, and kindred humbugs have been the bane of bee culture in Maine. But there is light ahead! We have many intelligent and progressive beekeepers, who are alive to the real and substantial improvements that have been made; and my apiarian friends, in other States may rest assured that the Yankee element of this State will not be long in discovering that an "honest penny may be turned" in this direction—where they have heretofore found but little honey, a few swarms, and any amount of *humbug, swindle* and *robbery*—and THEY WILL TURN IT!

GEO. S. SILSBY.

Wintersport, Me., Jan. 31, 1871.

Answer to Puzzle, No. 2.

B has fifty swarms and A has seventy.

J. W. FAULKNER.

Vevay, Ind., Feb. 3, 1871.

Answer to Puzzle No. 2. Amer. B. Journal, Feb., 1871, page 188. A has seventy swarms, B has fifty.

H. W. S.

Cincinnati, Feb. 4, 1871.

* * *

No insect structure can more thoroughly exemplify the most appropriate adaption to its uses and the most admirable elegance in the formation in the means of execution, than that of the honey bee.

[For the American Bee Journal.]

Bees in North Carolina.

Dear Journal:—I must confess negligence in not writing to you before, but we are all working up here now, in Wake county, about bee culture, and are going to give more attention to the pursuit, sow Alsike clover, and produce honey, like our northern and western brethren.

It appears from census statistics, of 1860, that North Carolina was the second State in the Union in the quantity of honey yielded, and we hope to keep, yea, to increase our reputation.

The last season was not favorable for bees. The early part was wet, and the middle very dry—somewhat better late in the fall, so that swarms that survived the dry weather stored nearly enough for winter.

There were not as many swarms cast last season as usual. Many of the late ones died, or run so low during the drought, that they became prey for the bee moth; and some of the old stocks, too, that had swarmed themselves weak.

Our crop of surplus honey was very light.

I had an experience last season that was new to me, and I can come to only one conclusion about the matter. I will state the circumstances, and your readers may think what they please of it. In August or the early part of September, I introduced an Italian queen into a swarm of black bees, for Josiah Turner, Esq., at Raleigh, and as we wished to raise queens from her, gave especial attention to the swarm, feeding, putting in drone comb (as there was none in the hive), &c. For a time all progressed finely; the progeny was beautifully marked, till one-half or two thirds of the population were pure Italians. Then some hybrids appeared, and finally the swarm returned to hybrids and bees that you could not distinguish from such as are produced by a black queen. The queen which I introduced was claimed to be over one year old, and had always given pure stock. She was raised and sent to me by Mr. Shultz, of Salem, N. C. I took the precaution to clip her wings, before putting her in the swarm, and do not think it possible that she died and the swarm raised another, as I could not find the least trace of a queen cell; and do not think the swarm was queenless, or had time to change queens between my examinations. Had the queen been changed, or a new one raised and substituted, ten years' experience in breeding Italian queens ought to enable me to detect the fact. The wings seemed to have partially grown out again. About one-third was cut off the end.—I notice several writers recommend clipping queens' wings. I would inquire how much may or should be cut off? I have had queens of some months old change stock.

J. Curtis.

Raleigh, N. C., Feb. 3, 1871.

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In a honeycomb the base of each cell is composed of three rhomboidal pieces, placed so as to form a concave pyramid.

[For the American Bee Journal.]

A Good Honey District.

Mr. Editor:—In the December number of your Journal, I saw the inquiry from Mr. A. L. Brown, London, Ohio,—"Where are good honey districts?" He says that he has to depend mostly on white clover for surplus honey. I think that northern Iowa is far ahead of his section of country for bee pasturage. Nearly all the best honey-secreting blossoms are to be found here, except the tulip tree. On the prairies and in the timber are to be found flowers springing up everywhere, as soon as the frost is out of the ground six inches deep. Then our native groves present one grand bed of flowers, so numerous are the wild plum, the crab apple, and the cherry trees. Then come all kinds of berries, blossoming in their rotation, with any amount of cultivated flowers.

This country is comparatively new, so that every plant grows luxuriantly, especially white clover, borage, golden rod, &c., with basswood all through the timber, and plenty of fall pasturage. I have been a bee-keeper here for three years, and have not fed any yet, although some had to feed in the spring of 1869, but they filled the hives in the fall, and were in good condition for winter. We have little or no cholera or foulbrood, and no drouth since this country was settled that did not leave us half a crop of grain. Our winters are long, with steady cold; so that bees must be put into good winter quarters, to insure good success. A dry cellar is the best repository. I am wintering twenty-three stands this winter, and have never lost a stand yet. Our swarming seasons are from the first of June until the fifteenth of July. I think that the bee moth needs a little extra watching in this country.

J. W. Lindley.

Mitchell, Iowa.

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[For the American Bee Journal.]

Bees in Colorado.

I see in the Journal for January, an inquiry from Mr. James Heddon, asking if Colorado would be a good place in which to keep bees. As I have travelled some in Colorado territory, perhaps I may be able to give him the desired information. I have seen many localities which I would call poor for bees, but never saw one where they could not be kept at all, until I visited the plains. Bee culture cannot be made a remunerative pursuit in Colorado. As far as the eye could reach it was in most places only a barren, desolate, and dreary plain. The whole Cache a la Poudre valley, said to be one of the finest in the territory, would not yield enough honey to support a single colony of bees.

There is no natural pasturage except a limited amount at the base of the mountains; while the cultivated plants which produce honey cannot be grown except by irrigation. As regards the climate, I will say that at Greely, Colorado, the thermometer rose to 90° above zero nearly every day, during the latter part of May, 1870; while in December of the same year the mercury sank to 27° below zero. Mr. H. can judge from these facts whether bee-keeping would be a *profitable* pursuit in such a country or not.

HERBERT A. BURCH.
South Haven, Mich., Jan. 25, 1871.

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[For the American Bee Journa.l]

Novice.

DEAR BEE JOURNAL:—We have just returned from the Cincinnati Convention, where we had the pleasure of meeting many with whom we felt ourselves well acquainted, but had not been so personally until then; and we must say that the reception which your old friend "NOVICE" received when he was recognized, was such as we had hardly dared expect.

We must confess that the number of warm friends who took us by the hand, and the congratulations we received, were more than ample compensation for our writing for the Journal during the past four or five years.

We also enjoyed the *very great* pleasure of a long friendly talk with Mr. Langstroth; and we very much regret that his health will not permit him to give us the benefit of his writing through the Journal. His ideas have a clearness and a comprehension of the whole subject of bee culture, that we have never met before. Even at the time of his invention, the movable comb hive, years ago, he seems to have looked forward and foreseen just what would be needed so far, that we think the most successful bee-keepers will agree together, after years of experiment, that the hive he gave us, is all and more than just what we needed.

We suppose you will have a report of his remarks at the Convention, and therefore do not send them; but in our opinion they were of more value than all that was said on bees.*

The rest of the proceedings we will leave for some one else to give, and make a few notices of last month's Journal.

In regard to comb foundations, our experiments, made in October last, would prove something very different indeed from the single experiment of Mr. Quinby; and we will ask only one week to test the matter in full frames, be it in March or April, with good foundations.

Happy to hear from Gallup again.

Jasper Hazen's long article, like all others we have seen from his pen, (and they are widely scattered,) purports to be written for the purpose of giving information on bee-culture; yet we cannot gather a single idea more than that he has made some great discovery on hives—*Circular on receipt of stamp!*

"Without practising any *violence* on the colony!" We presume that refers to movable combs and the melextractor.

If our good natured editor does not like to tell a correspondent that *there are advertising pages* for patent hives, let us at least show that *we* feel it. Mr. Hazen cannot but be well aware that the Langstroth two-story and many other hives give every advantage that his does on prevention of swarming, by giving room. Whether the room is in boxes or full sized frames at the side of the brood, there certainly can be no advantage in boxes over frames. Any bee-keeper who *does not* give his bees all the room they can use, is certainly behind the times.

Mr. Hazen, please be open and honest and tell us in the beginning that your sole object is to sell *rights* for your hive.

Mr. Gallup may well say he could not realize the capabilities of the melextractor until he had tried it.

Had Mr. Quinby been at the Cincinnati Convention, he would have found that there is a very *strong* tendency to give Mr. Langstroth the whole credit of introducing the movable comb hive, now at least.

We think queen nurseries will work, and possibly even if they *are not* patented

With high anticipations of what the coming season of 1871 is to develop by the aid of a combined brotherhood of disinterested bee-keepers (not patent hive men), we are among the many yet a NOVICE.

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[For the American Bee Journal.]

Report, Cross-breeding, and Questions.

I commenced the spring of 1870 with seven colonies of black bees, and one with a drone laying Italian queen—all in movable frame hives, wintered on their summer stands.

On the 22d of September, 1869, I received from Mr. A. Grimm, of Jefferson, Wisconsin, by mail, two Italian queen bees. I clipped a wing of each, caged, and introduced them. One of them the bees neglected, and she died in the cage; but I succeeded in introducing the other. I made frequent examination for eggs and brood during October following, but found neither. At Christmas the weather was warm and pleasant; bees came out of the hive, and I examined it thoroughly. I found neither eggs nor brood, and felt much disappointed. I frequently saw the queen, apparently all right. Made no further examination till February, 1870. The 16th was warm, no snow on the ground, and bees flying. Examined and found brood in worker cells, from the egg to capped brood, with caps raised. This was conclusive evidence of drone brood, and you may well believe I was disappointed. I made no further examination till March 10th, which was a warm day, with bees flying. Found brood increased, hatched and hatching, and no sign of worker brood.

Query 1. Can any of the readers of the Journal explain how this occurred? I do not believe Mr. Grimm would knowingly sell me or any man a virgin queen for a fertilized one. Did she become a drone layer by being chilled when in the mail? There were no dead bees in the transporting box. The next day after she was introduced was very cold. It was the best mishap that could have occurred. I will explain. I furnished her with worker brood, and empty drone combs, and kept her and her colony rearing drones until July. At the same time I destroyed all the black drone brood in my hives, and thus kept my apiary absolutely clear of black drones. No other bees nearer to my apiary than one and a quarter miles, and only two colonies there—unless possibly some wild bees. I distributed Italian drone brood among my colonies as needed. I wrote to Mr. Grimm about the drone laying queen, and he sent me another, which I received April 28th. My first artificial colony was made April 26th, by removing a strong stock from its stand and replacing it with a new hive furnished with empty combs, honey, and brood from a second stock. April 28th, artificial colony fully reconciled. I then removed from them all the brood I gave them, and introduced my newly arrived Italian queen in this artificial colony with perfect success. After she was acknowledged by the colony, I strengthened them with black brood. On the 1st of May the queen was laying. On the 6th I made a second artificial colony, and gave them Italian eggs, from which they reared a queen. She was purely impregnated, and had a large stock of brood in her hive on the first of June. I continued to make artificial colonies until I had increased my number to twenty, after which I destroyed the seven black queens and replaced them with queen cells. The result is I have seventeen purely fertilized queens, including the one I started with, two hybrids, and one doubtful; with over 350 pounds of extracted honey. I believe there cannot be found a worker bee in the seventeen colonies, with less than three yellow stripes. The queens I ordered from Mr. Grimm were the daughters of his imported Mona queens. The Italian drones were all reared from the drone laying queen, which I received in September, 1869, and the queens reared from the queen received in April, 1870. Thus you see a cross fertilization was effected, with all that were purely fertilized. The drones of the drone laying queen were very dark colored, but had three narrow stripes. My first reared queen produced drones about the first of July of a much brighter color.

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* If this be so, he must have been very meagerly reported. —ED.

The artificial colonies were mostly made, as the first, by removing a strong black colony to a new stand, when the bees were flying, collecting the returning bees of the removed hive in the new one, on the old stand, and furnishing them with empty combs, Italian brood, or sealed royal cells. Thus I increased and Italianized at the same time. I lost one-half or more of the queens reared, when out to meet the drones; but every queen that became fertile and commenced laying, is a good prolific queen, and was living when I tucked them up for winter. From the above you see the sixteen out of nineteen of the queens I reared are cross fertilized. I believe bees can be improved by cross-breeding, and deteriorated by in and in breeding, just like farm stock. I have determined to continue this plan of cross breeding. Thus I will get a queen from Dr. Blumhof, and rear queens from her in the fall, and prevent them being impregnated until they have lost the inclination. Then I will rear Blumhof drones from them in the spring, to fertilize the young Mona queens. At the same time I will destroy all the Mona drone brood that may be reared in my hives, (no other Italian bees being near mine.) Thus all the queens that will be purely fertilized will rear cross breed bees. I believe if the crossing is attended to, every second year, it will secure the best of stock, much more certainly and with less trouble than by re-queening.

Query 2. Bee-keepers, what is your opinion of my mode of cross-breeding? With me, you see, it is practicable.

Query 3. Who knows what quality of bees can be produced from an Italian queen impregnated by an Egyptian drone? Will they be cross, or peaceable? Good, worthless, or poor? and how marked?

The advice of almost all queen breeders is to select the queen that produces the lightest colored workers to rear queens from, and continue thus to select. The tendency is in and in breeding.

Query 4. Is not this course pursued by those who rear queens for sale, the queen progeny of which are always duplicates of themselves? And

Query 5. Has any one with queens thus reared annually, produced a large yield of honey from his apiary?

I have no fancy for in and in bred bees. I want bees for business, three striped, shade of color of no account. It is said by many that the pure Italian bee will seldom sting. My Italians are fully as cross as black bees. I have one very light colored colony nearly as cross as the hybrids. The fact that my bees are so very cross I believe to be the result of cross-breeding.

Query 6. Is it a fact or not that in and in breeding produces light colored peaceable bees, as a rule?

Query 7. As a rule, are in and in bred bees as good workers as cross bred bees, or are they not?

Questions for Novice.

1. Is not your success in honey gathering, due in part to your bees being crossed, hybridized, or graded? I infer they are from your ordering twenty-five queens of Mr. Grimm, and from what I have been told by a person who has seen them.

2. If you had purchased only one Italian queen bee and bred your whole stock from her and her progeny, and kept them strictly pure, would you not have got less honey?

Again, on page 173, American Bee Journal, Vol. VI., in answer to questions, you say—"We too have cross colonies, and gentle colonies, both pure, as we think. And so they remain as long as the queens live; and we do not know any remedy." Now

3. Do you know, or not, whether the cross colonies are the result of cross-breeding?

4. Do you know, or not, whether the gentle colonies are the result of in and in breeding? And

5. Whether the cross colonies are better workers than the peaceable colonies? If you do not know, please note these cases hereafter, and report.

Peninsula, Ohio. M. MILLER.
Latitude 41½ *N.*, 22 *miles south of Cleveland.*

[For the American Bee Journal.]

Italians and Black Bees.

MR. EDITOR, and readers of the Journal.—We read much in the Bee Journal of the superiority of the Italian over the black bees. Several bee-keepers having large numbers of swarms of the two kinds in the same apiary, and with the same treatment, have given us the result of the comparison. With few exceptions the Italians have done the best, and much the best. This seems to be given for strong, if not full proof, in favor of the Italian variety. With the two kinds, as found in the above apiaries, we consider the evidence good, and in favor of the Italians. But how came they better? Is their superiority a *natural* quality, or is it only an improvement by the art and labor of man? Similar questions to these have been asked before. Please see July No. of Bee Journal, Vol. VI., page 17. With the very high appreciation of Italian bees, these questions have stood before the public from July to January, and are still unanswered. Where is Novice, Thomas, Grimm, Adair, Alley, and any number more of our great bee-men? Their silence on this question is strong presumptive evidence that it is simply *the improvement* that has made the Italians superior to our native black bees. Without any superiority on the part of the Italians there would be small sale for the queens, and hence the improvement.

Well, gentlemen, you have done a good deed, so far; one that has been a benefit to the public as well as yourselves. But more, I think, should be done. Now I think it well to try your hand at improving the black bees; and when you have raised these to as high a pitch as the others, probably a cross between the two kinds would produce a hybrid that would be superior to either kind.

When the same means have been used to improve the black bees that the Italians have received, then an equal number of swarms of the two kinds, in the same apiary, in the same kind of hives and with the same treatment, will give the true merits of each kind. Without a like improvement all comparisons are vain to show the *natural* qualifications of the kinds. I give it as my opinion that black bees are not naturally inferior to the Italians.

ALONZO BARNARD.

Bangor, Me., Jan. 1871.

[For the American Bee Journal.]

A Beginner's Experience with Bees.

MR. EDITOR:—I wish to give you some account of my progress in bee-keeping, but being young in years as well as in apiculture, I fear I may not be able to express myself as clearly as some of your older correspondents, though I will endeavor to make myself understood.

I commenced keeping bees in the spring of 1868, with five colonies of black bees in box hives, transferring them soon after into Langstroth movable comb hives, which, so far, I consider the best in use. I made eleven swarms from them, without any stimulating whatever, and Italianized one half of them the same year. Thus, you see, that we had no notion of keeping bees without having the Italians also. We now had sixteen colonies, which we soon found was overdoing the business, as none of them stored honey enough for its winter supply, although the Italians had the most, so that I felt like raising my hat for them. Though the blacks had equal chances with the Italians, they would have starved had we not taken some pains to save them. We bought seventy-five pounds of sugar and gave it to them, which carried them through the winter.

My bee-house is like that of H. M. Thomas, partly under ground. In the spring of 1869 when I took out my bees I found them all in poor condition, and lost three stocks, from various causes, after setting them out—thus reducing the number to thirteen. Yet, by a little stimulating, moving the frames apart and inserting empty combs in the centre, I soon had them very populous, and thought I might double their number. But having learned such a lesson the year before, I concluded to make only five artificial swarms, and make them pay for themselves. We did so, and obtained one thousand pounds of extracted honey, besides the five swarms, and Italianized all of them. They averaged fifty pounds each in weight. Now, I began to think myself something of a bee-ist. I wintered my stocks in the same house as the year before, and they came through in fine condition.

This season, 1870, has not been very favorable for bees, although I made fifteen swarms, and obtained one thousand pounds of surplus honey. The colonies averaged thirty pounds each, in the fall. Now, Mr. Editor, I do not want to count the chickens before they are hatched, but think I will take the plan of your correspondent, Novice, next season, who I don't think is quite such a novice as he styles himself.

My hybrid Italians are superior to my pure stocks in every respect, except their crossness. I have a plan in operation for keeping reserved queens, and if it proves to be of value, as I feel confident it will, I will report through the Journal. I intend also writing an article on in and in breeding, not in defiance of Mr. Briggs or any other man, but merely giving my own experience.

J. N. WALTER.

Winchester, Iowa.

[For the American Bee Journal.]

A Honey Extractor.

MR. EDITOR:—I have invented and made a honey extractor different from any that I have seen described in the Journal. I will give a brief description of it; but will first state that I use hives similar to Mr. Gallup's—the frames being the same as his, eleven inches, inside measure. My extractor consists of a couple of tin boxes and a frame work to hold them. The frame and boxes are revolved upon a wooden upright spindle. The tin boxes are twelve inches long, seven wide, and sixteen deep. There are flanges on the ends of these boxes, to correspond with rabbetings in the hives. An empty frame covered with wire gauze on one side, forming it into a kind of screen, is suspended in each box; and the boxes are then suspended in the frame work, one at each end. The whole is then placed upon the spindle, after the manner of an old-fashioned pair of swifts, and is revolved by a pin four inches from the top bearing of the spindle in the frame work.

I place this extractor at the side of my hive; open the hive, and after brushing off the bees, at the entrance of the hive, from one of its well-filled combs, I put it in one of the tin boxes, placing thereon its tight-fitting cover. Then, when another comb is adjusted in the same manner, in the other box, the extractor is ready for operation, and a few revolutions of the machine throws out the honey nicely.

The advantages of this machine are its small cost—about four dollars; and doing its work well anywhere in the apiary.

I will here say that I believe myself to be the first inventor of this machine, and hereby give my claims free to all bee-keepers, as I shall not get any part patented. Those who may wish to make, and do not fully understand the above description, can address me by letter, with stamp.

John L. Davis.

Delhi, Mich., Nov. 14, 1870.

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[For the American Bee Journal.]

Blunders, and Mistaken Notions.

Mr. Editor:—In a conversation last spring, with an old fogy friend, upon the physiology of the honey bee, he informed me with great earnestness, that the drone is the female bee, deposited the eggs, and is the mother of the colony—he "had cut them open, and found them full of eggs"—that if I would go home with him he could convince me of the truthfulness of his theory. Having several years since arrived at, I think, a correct knowledge of the matter in controversy, I did not go.

He may, in his immediate neighborhood mislead a few gaping, ignorant people; but that a Scientific Journal, with its thousands of readers, published too in the great commercial metropolis of our country, the centre of learning and knowledge, and purporting to give correct engravings of the different kinds of bees in a hive, should serve us with a very fair picture of the *drone* with the word *queen* printed underneath, is too bad. If the editor knows no more of bumps on a man's cranium, than about queen bees and drones, Phrenology will fool somebody. These *illustrations* are given in a communication by the Rev. Mr. Van Slyke, and I am satisfied the author is not in fault, as "*Life Illustrated*" must have stuck these bees in for grandeur.—Mistakes of this kind should not occur.

Sometime ago, I noticed going the rounds of the press, a very sympathetic account of the funeral of a bee. "Tenderly two bees bore the dead body of their comrade, some ten yards from the hive, placed the body head downward in a hole in the ground, and rolled against it two little stones, '*In Memoriam*,' and lingered there awhile, as if to drop a sympathizing tear," &c., &c.

Now all that is very nice on paper, and to the wonder-loving is a very readable article. There is something exquisitely touching in creatures so small, exhibiting so much regard for the dead; but the fact is some kind-hearted man saw two bees fly off with a dead one, and imagination saw the rest. Bees do carry off their dead—sometimes two carrying a dead one; but more frequently only one bears the burden. They fly from ten to forty yards from their home, and drop the dead while they fly. I have seen them bump the ground with their load, either from fatigue, or the wind bearing them down, when from the stun received they tarried awhile with their deceased comrade, not, I think through affection, or to perform any burial service, but to recover strength to return home. Sometimes bees, whose moments are but few, probably have an instinct of approaching dissolution, and leave the hive to die. Some that appeared to be sick and droopy, unable to fly, I have seen in the vicinity of their hive, and have picked them up and placed them near the entrance, sometimes in the hive, and they refused to stay, although no one was cross with or objected to their company. I have also seen wingless or deformed-winged bees, unable to fly, crawling on the ground near their homes, and returned them half a dozen times. They persistently refused to stay, but would crawl out, fall to the ground, and seemingly try to get as far away as possible. Either from choice, or in obedience to fixed laws, a sick or deformed worker remains in the hive only a short time. In the spring and summer, on examining hives, I have seen drones as well as workers, whose wings were crumped, but the length of their probation I never ascertained.

W. P. Henderson.

Murfreesboro', Tenn., Feb. 6, 1871.

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[For the American Bee Journal.]

Doubts and Difficulties of a Beginner.

Mr. Editor:—As I have formed a very pleasing acquaintance with the Journal and its contributors, it may be well for me to introduce myself. Ever since I can remember I have had a love for the industrious honey bee, to say nothing of the honey, which always agreed with me. From time to time, too, I have had the bee-fever some, so that I owned four hives in my life, but never kept any long enough to get any benefit from them, (unless it might be once, when I consigned some to the brimstone pit. But, ah, unlucky day, *they* cost more than they came to.)

This fall I borrowed two of the Journals, and truly brimstone is, or ought to be, of the past. I became a subscriber, and purchased seven stocks of the common bee. They are in my cellar. I put a ventilator both in the north and in the south side of the cellar, made by nailing together four pieces of board, making an opening of about two inches each. This I close when the weather is cold. The bees are in four different kinds of hives. And this brings me to the very thing that puzzles me. I find most of your correspondents differ in some respects, so that a bee-keeper may take what seems to him to be the best, and go ahead making experiments, and if he does not succeed try some other plan; and thus test several plans in one season. This does well enough, where no patent interferes. But when we come to the hive question, we find people differ as much as in other things. Mr. Thomas thinks his hive is the best in the world; Mr. Alley knows his is the only one containing all the requisites of a good hive; Mr. Langstroth still maintains that he has the very best. Some think the Beebe hive is just what suits them; and others, with equal zeal, will contend for the Price hive; and so on to the end of the catalogue. Every one is affirmed to be the best by its special advocates. Now, I always thought it was *good*, BETTER, BEST! But whose is best? That's the question, at least for a beginner. That is what I am after. Who will decide this matter? I should be willing to leave it to the editor; but it is not his province to be umpire; but to hold an impartial scale between the contestants, whatever his private judgment may be. Then how shall I settle it? It will not do to buy a right from every patentee, and make a few hives of each kind to test them; for that would require a small fortune, or at least much beyond the profit of the bees; and I should grow some grayer than I now am before a satisfactory decision could be reached. So I say, down with the patent right business! Thousands of money worse than thrown away, because paid in the majority of cases to miserable lying whelps who are too lazy to get a living by work. I do not speak of the inventor. All praise to the man of genius. But let the Government pay them a suitable remuneration, and then let every one experiment on that which looks most sensible and promising. Now who will tell me what hive to use? If I could find one not patented, containing all the requisites of a good hive—cheapness and all, I would be pretty sure to try it.

Will some one tell me how much Alsike clover will sow an acre? Will it pay to raise pasturage for bees, in a timbered country, where there is plenty of basswood, elm, and hard maple?

But now I must certainly ask to be excused, for I have used more ink and paper than I at first designed.

H. F. Phelps.

Pine Island, Minn.

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The pollen gathered by the bees is of various colors, but the combs they construct are always of one color; and when newly made are pure white.

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Bees extract sweets even from the most poisonous plants.

[For the American Bee Journal.]

Bees and Grapes.

I wish to know through the Journal, if bees have troubled grapes in any other locality, the past season. I think in this place nearly one-half the crop was destroyed by them. It was very dry when grapes began to ripen, and a shower of rain cracked open a great many of them, which gave the bees a taste; and as there was nothing else for them to work on, they nearly ruined the crop. I did not think they would touch the whole ones; but after once getting a taste, nothing would stop them. A good whole sound bunch could scarcely be found. Concord grapes were eaten the most. At first it was laid to the Italian bees, but in some places I noticed more black ones than Italians.

J. L. Peabody.

Virden, Ill.

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[For the American Bee Journal,]

Hiving Bees.

Mr. Editor:—I read your Journal with much pleasure, and feel myself much benefited by it. I will say something about hiving bees, by a beginner. I was first called out to hive a very large swarm, and was rather timid in the operation. I thought I should without doubt be stung to death; however, I mustered up courage, took my hive, and went to work. I placed the hive directly under the cluster, and caught hold of the limb, and gave it a jerk. Down came the bees in a heap. I then took a stick and commenced trying to make them go in the hive; but the bees got too many for me, and I had to retreat in good order, "such order as it was." I thought it was nothing to hive a swarm of bees; yet I was a little backward about it anyway. But I have now learned how to handle bees, since I commenced reading the Journal. Some talk about woman's rights, &c.; you talk, thought I, I have had my rights and more than them.

A CURIOUS QUEEN BEE.

Can any one inform me what kind of queen this is? I will describe her. One evening, as I sat watching my bees, I saw a bee fly off that looked very much like a queen. In a few minutes it came back; I caught it and examined it; it proved to be to all appearance a queen, in shape, color, &c. It was like all other queens in shape, but it had the marks of a humble-bee. It was no larger than any other queen, but it was black as a crow and resembled a humble-bee. I let this queen go, and she went into the hive unmolested. Two days later, I saw two more in the same hive. I leave this for Mr. Gallup to unravel, for I think he will accommodate the ladies. "Let me hear from you my friends!"

A Beginner.

St. Louis, Mo.

[For the American Bee Journal.]

Comments and Rejoinder.

In reading the February number of the Journal I find many subjects that I would like to write about, but as I cannot take up all of them, I will only notice a few of the many. In the first place, I will take up a part of the article on page 192, on "HIVES AT THE NATIONAL CONVENTION." In said article will be found the following: "Take, for illustration, the Alley frame, ten inches wide and eighteen inches deep. Who cannot see that it is impossible to get a queen to breed in all parts of such a comb, when placed in a nucleus box?" (The Alley frame is 9 inches wide, and 17½ inches deep.) We never saw a comb of any size or shape that the queen would fill all parts with brood, when placed singly in a nucleus hive; and the queen will do it just as well in one comb as in another.

Here let us say that we do not raise queens in nucleus boxes with a single comb. Such hives will do to put queens in, to have them fertilized, but are worthless to raise queens in. What would a frame 9 by 9 inches be worth for a brood chamber to raise a stock of bees in? I have a lot of hives of this size of frame that I have thrown aside, because I had such poor luck in raising queens in them. None of the Bay State hives were on exhibition at the National Convention, to my knowledge.

On page 187, under "*Replies and Remarks*," I find the following: "But arrange the entrance as in the Alley hive, so that the frames run from side to side, and you will find it almost impossible to get the queen to breed in the rear combs; and in the Alley hives the rear combs are the last ones to be built. Swarms are almost invariably weaker, in numbers in such hives, in the fall than they are in hives with the natural arrangement of the comb." Now our experience has been just the reverse of this. Instead of the rear combs being the last ones to be built, we have, as a general thing, found them the first ones to be built in nine out of every ten hives that had bees put into them. And to the first reader of the Journal that comes into my yard, I will show a Bay State hive that had a swarm put into it late in June last. The rear combs in this hive are full and sealed from top to bottom with honey, while the two front frames are only about half filled, and contain no sealed honey.

The fact is, when a swarm of bees are put in a hive, they will cluster in some parts of the top—sometimes in a corner and sometimes in the middle; and just where they happen to cluster, there will they commence to build comb. The shape of the hive has nothing to do about the bees commencing to work in them. It is just where they cluster that comb-building is begun.

One of the best features of the Bay State hives is the fact that they are always strong in numbers in the fall, and one reason why they winter so well, is because the colony is strong when the winter sets in. I have always found that deep hives of any shape or style winter bees well, and always contain strong colonies.

I will challenge any man to produce a hive that will winter a stock of bees as well on their summer stand, or one that will produce more honey with the use of the extractor, or in large or small boxes, than can be got from the Bay State hive. I will send a Bay State Hive to any disinterested person to test, if other parties will do the same with their hives. They shall be thoroughly tested, and the result reported through the American Bee Journal. The person who undertakes the task of testing them, shall have the hives for his trouble. Who is ready to go in? If any can be found there is time to send the hives this season, and have bees put in them.

Now, we will reply to Mr. Quinby. I will give my ideas of foulbrood in a few words. I wish to be understood that in my opinion the quickest, surest, and cheapest way to get rid of foulbrood is to destroy the hive and contents at once. But if I had a hundred hives infected, I might be led to modify my views on this point, as I think as much of my bees as any man does of his. But if I had any number less than twenty-five, I would certainly pitch into them and clean out the disease at once. In my opinion Dr. Abbe will not cure foulbrood as he proposes, and if he should succeed, it might cost him as much in time and trouble, as it would to have destroyed them and purchase a new stock.

I do not believe in spending several years to cure a disease that can be cured in a few hours. Mr. Quinby has been ten or fifteen years in trying to accomplish what I did in two hours. If Dr. Abbe has got twenty stocks that he will cure of foulbrood, I would not take them as a gift, and would not have them in my apiary and run the risk of the disease breaking out, as it will certainly do sooner or later. This is my opinion about it.

Mr. Quinby admits that he has had the disease among his bees during the last ten or fifteen years, and he will have it for as many years to come. I have no doubt that he can check it in a measure; and so can Dr. Abbe; but to thoroughly eradicate the disease is another thing to accomplish. H. ALLEY.

Wenham, Feb 8, 1871.

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[For the American Bee Journal.]

Bee Farming.

MR. EDITOR:—Among all the varied experience, as given by the many writers of the "Journal," I have seen but one on the above topic, and this one very imperfect in detail. In the advanced stage to which practical bee-culture has arrived, I think this one of the important points that we are neglecting. If, instead of a honey season of a few weeks, we could add as many months, the product of our hives would be in like proportion. No doubt there are more favored districts, where nature furnishes abundant pasturage for bees all summer. But those districts are the exception, not the rule.

In this vicinity, nine-tenths of all surplus honey is stored in from twenty to thirty days, from white clover. Having so short a season, unless great care is taken to have the hives strong, and everything in readiness, the yield will be very small. Besides the season, short as it is, is liable to be too wet or too dry; and thus we have another cause of failure. But if the season could be prolonged three months, with pasturage equal to that furnished by the white clover, the amount of honey would be more than quadrupled, besides the increase of swarms. This fact needs no argument; it is self-evident to every bee-keeper.

There seems to be an opinion prevalent that it will not pay to cultivate plants for bee-pasturage alone; but that such plants as buckwheat, alsike clover, &c., must be cultivated, from which the farmer can get a crop that is valuable for other purposes – making his bee-pasturage a secondary object. And almost universally the honey crop is considered "small potatoes."

The alsike, blooming simultaneously with the white clover, makes it of little value to prolong the season. Buckwheat, for a honey crop, is a failure four times in five. The question then arises, will it pay to cultivate plants for the honey crop alone, and especially to prolong the season? The cost of hives and bees, the care and expense of wintering and spring feeding, are the same whether the yield is twenty pounds or two hundred pounds per hive. All the profit derived must be after the hive is made strong in stores, so that every pound gained by artificial pasturage is so much *net.* Let us figure, and see how bee-farming will compare with other farming—corn growing, &c. The average crop from a field of twenty acres, that I have planted in corn for three successive years, has been nearly fifty bushels per acre; average price per bushel, fifty-five cents.

Amount per acre	$27 50
Cost of raising and marketing . . .	11 70
Profit per acre	$15 80

The average yield, per acre, of corn in the State of Ohio, for 1869, was 27½ bushels per acre; while the average cost of production was, no doubt, less than in my own crop, and my profit per acre more than the average of the State.

The cost of sowing an acre of melilot clover, including the seed, is	$ 8 55
Affording pasturage for ten hives, yielding a surplus of 20 lbs. per hive=200 lbs. at 20 cents per pound	50 00
Profit per acre	$41 45

M. M. Baldridge states, that the melitot will yield from 300 to 500 lbs. per acre. R. Miller, by artificial pasturage, with 45 hives, old and young, averaged 52 lbs. per hive. He had three acres of melilot; but does not state what other amount of pasturage he had. (*Bee Journal*, vol. v., page 166). G. B. Avery thinks "that two acres of alsike would, in a good season, furnish honey sufficient for one hundred and fifty to two hundred colonies of bees. (*Bee Journal*, vol. iii., page 157).

The many reports of honey yield in the "*Journal*," will show that my estimate of 20 lbs. per hive is a low one; and I have no doubt, when once attention is called to it, that bee-keepers, with the aid of the melextractor and artificial combs, will show that my figures are the minimum instead of the maximum. There are very few farmers that realize $20 per acre off their farms, instead of $40. Besides, we have only begun to pay any attention to honey-plants —once there is a demand—flowering plants will be tried and tested, until we will have results superior to any yet realized, and "Novice's" vision of "miles of honey-jars," be a fact. Let every bee-keeper who has land, test some honey-plant, and give us the result in the "Journal," and soon would we have a volume of facts that would startle old fogies "in the baggage train." And now, if we are going to have artificial combs so cheap that Mr. Bickford "*dare* not tell," we want honey enough to fill them; and why not have it all in 1871?

A. L. BROWN.

London, Ohio, Jan., 1871.

P. S. – Do you think it would pay to cultivate the aster and the golden rod in this locality? Where could I obtain seed? Has the *Incarnat clover*, mentioned in the *Bee Journal*, vol. ii., page 234, and vol. iii., page 201, ever been tried in the United States?

[These plants would doubtless grow in Ohio; and, indeed, according to Gray, several varieties of each are native there, though it is not stated whether they are honey producing. Whether they could be cultivated for bee-pasturage with advantage, we do not know; but from their abundance around Washington, it is not unlikely they might. It would be difficult to procure seed now, care would be required to obtain it from the right kind of plants, as many varieties of each produce no honey—at least not on all soils.

We do not know that "Incarnat clover" has ever been tried in this country for bees, though it is a favorite for that purpose in some sections of Germany. It has been tried by farmers in Pennsylvania as a forage crop, but being an annual did not find favor.—ED]

◆

[For the American Bee Journal.]

Hurrah for Figures!

MR. EDITOR:—In the February number Mr. Jasper Hazen has an article on the advantages of non-swarming hives. I think he has one or two errors in his calculations; and by a different mode of statement, I believe it has a very different appearance. I will take his data and calculate from them. And first take the *swarming hive.*

10 Colonies cost $5 each,	$50		
10 hives " $1 "	10	outlay	$60 00
Annual cost. Int. on $60, at 7 per cent, ...	$4 20		
$\frac{1}{10}$ cost of hives, ...	1 00		
$\frac{1}{4}$ " " bees, ...	12 50		
10 new hives, ...	10 00		27 70

Produce. 100 lbs. of honey at 25 cents,	$25 00	
100 swarms, at $5 each,	50 00	
		$75 00
Net profit,		47 30
or for each hive,		4 73

Now take the *non-swarmers.*

One colony cost,	$5 00	
One hive, "	6 00	
	$11 00	
Interest on $11.00,	77	
$\frac{1}{10}$ cost of hive,	60	
$\frac{1}{4}$ " " swarm,	1 25	
		2 62
Produce. 120 lbs. of honey, at 25 cents,		31 50
Net profit,		$28 88
or for 10 colonies,		288 80
The swarmers give,		$47 30
" non-swarmers,		288 80

This is an immense difference in favor of the latter. But carry out the calculation for ten years, and look at the result:

The 1st year the swarmer produces	1	swarm and	$4 73
" 2d " " " "	2	" "	9 46
" 3d " " " "	4	" "	18 92
" 4th " " " "	8	" "	37 84
" 5th " " " "	16	" "	75 68
" 6th " " " "	32	" "	151 36
" 7th " " " "	64	" "	302 72
" 8th " " " "	128	" "	605 44
" 9th " " " "	256	" "	1210 88
" 10th " " " "	512	" "	2421 76

And besides this, each year should have added to it the value of the new swarms, which is for the second year $10, for the third $20, and so on until the last year's produce should be $2421 76

And the value of 512 swarms at $5 each 250 000

$4981 76

Total produce of the non-swarmers, 10th year, 288 80

This is enough for me, as I expect to live twenty or thirty years longer, and will therefore make a few more swarms, while Mr. Hazen, being now over eighty, cannot look for many more years of life and may do better for himself on the non-swarming plan.

H. W. S.

Feb. 1871.

[For the American Bee Journal.]

Using Hives Without Bottom Boards.

During swarming time last summer I was informed one day by the girl in attendance, that she had no more hives with bottoms, and no more bottom-boards on which a super hive could be set, to hive the swarms expected to come out that day. Being then away from home seven miles, it was too late that day to get the necessary hives, and I concluded to make an experiment by hiving all the swarms that came that day in hives without bottoms. In the course of the day four swarms issued, which united into three. We removed three of the stocks that had swarmed to new stands, and put a super hive without bottom on the old stand. These stands have an opening in the rear, 3½ by 12 inches, and this large space was left open as an entrance for the bees. Of course I feared that the bees would lose much wax by having the cool night air coming in through so large an opening. But on repeated examinations, I found scarcely any scales of wax on the ground, and the swarms made remarkable progress in building comb and storing honey, more so than some swarms quite as strong which had been hived a number of days before. Two of those swarms filled their hives with nice combs and honey, and three ten pound boxes besides, for surplus; and the third gave fifty-five pounds of surplus box honey. This fact made it appear to me that, in hot weather, bees would do better in hives that could be cooled off by a large opening in the bottom. I will, however, experiment more largely on that point next summer.

Number of Yards and Feet Contained in Different Miles.

English Miles,	1760	yards, or	5,280	feet.
Russian "	1100	" "	3,300	"
Italian "	1467	" "	4,401	"
Irish "	2200	" "	6,600	"
French "	3668	" "	11,004	"
Polish "	4400	" "	13,200	"
German "	5866	" "	17,598	"
Swedish & Danish	7233	" "	21,699	"
Hungarian	8830	" "	26,490	"

I copy the above table as I found it in our local paper a few days ago. It will, perhaps, serve to explain the mystery how so large a number of colonies of bees can be kept on a square mile in some parts of the old country. It will be seen that the Hungarian mile is the largest, the Swedish and Danish the next, and the German the third largest mile.

A. Grimm.

Feb. 1871.

[For the American Bee Journal.

War in a Nucleus House! And other Items.

Mr. Editor:—You occasionally want something to fill up your excellent Journal, therefore I will give you and its readers some of my last summer's experience:

On the first day of June last I formed four nucleus hives to raise young Italian queens. On the 23d of June, I watched one of these nuclei to see the young queen leave home to meet a drone. At two o'clock in the afternoon she came out, and off she went, four times in succession. The fourth time she returned, she showed signs of having met the drone. She entered the hive, but came out again immediately, with two worker bees after her. I heard her pipe twice, and then she re-entered the hive. I watched closely to see what would follow. In a few moments a bee came out, hobbling on its abdomen, and acting as though it was stung. More bees came out directly after, acting in the same manner, and soon died. An hour before sunset, I opened the hive for examination, when I found all the bees engaged in fighting. They were nearly all clinched together in a perfect net. I blew a little smoke among them without much effect. I took the frames apart and found some balls of bees the size of a hen's egg, on the bottom of the hive. I then looked for the queen, and found her at the back end of the comb, unhurt, surrounded by a few working bees not engaged in fighting. I closed the hive again, and next morning re-opened it, and found that peace had been restored, but hundreds of bees were killed, though the queen still remained unharmed.

I account for the occurrence in this way: One portion of the workers was for killing the queen, while another portion a party was opposed to it, and they settled the controversy by war, the right prevailing in the end. I must say that I never saw the like before, nor heard of it in the history of the honey bee. The nucleus consisted of half a swarm of bees.

I see in the Journal that Mr. John M. Price condemns all artificial queen raising. He says, having failed with the theory of all other authors, he got up a new plan to get large and prolific queens, by giving the bees the swarming fever some way. Now I wish to ask Mr. Price what he would call such queen cells and queens raised in a hive where the bees swarmed out in the swarming season, without previously starting queen cells, leaving the bees remaining in the hive to construct queen cells afterwards? The question is whether such queen and queen cells were natural or non-natural? I had two swarms swarm out, when no queen cells were started.

I have raised queens since the year 1866, for my own use. I never started a nucleus yet, that did not raise its queen. I have lost some queens when they left the hive to meet a drone. I have followed Mr. Langstroth's and Mr. Dzierzon's directions for raising artificial queens; hence I think I understand their theory. I have queens that were raised in June, 1867, and were alive yet last fall, which would make them three years old last June. They are very large and handsome, and were raised from a Langstroth queen, for which I paid twenty dollars. Hence I shall keep them as long as they live.

Mr. Price says, in reply to Mr. Dadant, that a queen hatched from a grub three or four days old, would do to sell. Here, I think, Mr. Price is laboring under a mistake, as I have raised queens from grubs of the bees, choosing those that were *six* days old, so that the queens hatched on the tenth day, and they were very large and prolific. Dzierzon, the great German apiarian, says it makes no difference whether the bees choose an egg or a grub three or four days old. All the difference is, that if they choose the grub, the queens will hatch so many days sooner. I confirm that statement, swarming fever or no swarming fever. I have no artificial queens for sale.

H. ROSENSTIEL.

Lena, Ills., Feb. 6, 1871.

[For the American Bee Journal.]

Explanatory Jottings.

MR. EDITOR :—Allow us now to hit Novice a trifle, just to see what effect it will have. When we commenced to write for the American Bee Journal, we made the proposition to answer all inquiries, if the inquirers would simply enclose a stamp to prepay postage. We might answer those inquiries by simply saying *Yes* or *No*, to each. But our object was to give instruction, and such short answer would not benefit the querist. Therefore we choose to give the why and wherefore ; and Novice will readily see that for a hard working farmer, this must necessarily take up much of his time, for which we receive nothing but the thanks of our correspondents, and the consciousness on our part of indeavoring to assist our fellow beings. (Here I will thank those inquirers who are ready and willing to pay for information, and have amply paid, &c.) We have been accused of doing this for notoriety. But, if we have become notorious, it was the very furthest thing from our intention when we commenced ; therefore we do not consider ourselves as at all to blame. Our conscience is entirely clear on that head. If we write for other papers, it is with the assurance that we would only promise to do so during the long winter evenings, and only one article should be used in each number, if it was expected to make them hold out, &c. We do not remember giving any such instructions to the editor of the Journal, and hence he sometimes puts them in, in greater numbers, as long as they last, and then the stream runs dry. Thereupon we received private letters by the score, berating us for not writing more for the A. B. J. (Wonder whether they would be satisfied, providing we should devote our entire time, and occupy one-half of every number with our nonsense?) But we have a family to provide for and are not overburdened with greenbacks ; consequently we could hardly devote more time to them, if we would. Now Mr. Novice, didn't you pile it on rather thick, when you said that we write "nary word for the old stand-by"? We think the February number shows that we have not forgotten "the old stand-by," by a long chalk.

On page 180, we should read "Even the crossest hybrids could be handled with impunity, *without* the use of smoke," instead of *with* the use of smoke. On page 192, article headed "Hives," &c., third line read "That were worthless," instead of "they were worthless." Take away or strip them all of the Langstroth features, and what would they look like? Echo answers—"what would they look like."

On the third and fourth of February, my two stocks that are on their summer stands, had a good fly. Those in the Diamond hive are wintering nicely, but something else is wanted in a hive, besides the wintering qualities. Those in the Alley hive are not wintering well. Others make the same complaint. I started on the sixth for Cincinnati. It is now snowing heavily from the north-east.

E. GALLUP.

Orchard, Iowa.

[For the American Bee Journal.]

An Explanation

Of R. B. Merrit's article on "Trouble Among Bees," Vol. VI., page 43.

A few years ago I made the same experience with a number of stocks of bees, that Mr. Merritt made. Nearly all the sealed brood was opened by the worker bees; some of them were still nearly all white; others had brownish heads, and a large number were seemingly ready to hatch, but could not get out of their cells. They were nearly all still in the same state three or four days later, and the younger bees also got ready to hatch. Then the older workers commenced biting the brood thus situated out of the combs, making large holes in the latter. On close examination I found large numbers of those young bees spun together at the tips of their abdomens, and unable to extricate themselves. Sometimes the old worker bees would drag out half a dozen of these unfortunate creatures, strung together in one lot. On closer examination, I found in some spots on the surface of such brood comb, moth-worms hidden in their galleries or passages of web. There were large ones and also small; and it appeared to me that those worms had hatched at the bottom of the cells, and gradually worked their way up to the surface. I then cut out a piece of such brood, and extracting a number of entangled bees, I found at the bottom of some cells as many as four small moth-worms, apparently about one-third grown. I found this state of things only in colonies that were very weak in the spring, and which when warm weather set in, had rapidly extended this brood-nest, and had thus probably covered up cells in which the miller had deposited large numbers of eggs. The old workers gradually cleaned out such combs, and rebuilt the damaged portions. The second set of brood then came out all right. Mr. Merritt would probably not have found that disease again in his swarm, if he had not put any combs in from other hives, that had very likely been visited by the miller. Since Italianizing my apiary, I found the same disease (if *disease* we may call it) only once more, and that in an artificial colony which had two frames of comb given to it, from a hive deserted by its swarm and which had remained without bees during the month of June. If the trouble referred to must be called a *disease*, I would designate it as the "worm disease." A. Grimm.

Jefferson, Wis., Feb. 1871.

[For the American Bee Journal.]

Eighteen Hundred and Seventy.

The season here promised to be a very good one, the spring opening fair and warm, after an uncommonly mild, dry winter. The bees were in fine condition to take advantage of the fruit blossoms; the trees blooming in clear weather, for the first since I have kept bees; and before the white clover--our principal honey crop—bloomed, they had begun to work in the surplus boxes. But about the first of June a long spell of rain set in and continued until the end of the month, with but very few clear days, so that my bees got very little more than a week's work on white clover. Yet in that time they secured an average of about fifteen pounds of surplus honey to the hive—filling the boxes with comb enough to have stored sixty pounds. By the first of July intensely hot and dry weather set in and soon parched up everything. There was no honey gathered after that time, until the aster bloomed in September, which gave an abundance for winter, but no surplus, as it is very hard to get the bees to work in the boxes so late in the season.

I increased my stocks about one half, and got an average of twenty pounds of surplus honey per hive, leaving plenty for winter. This is about what I do every year. My neighbors always complain of "bad seasons, too wet or too dry, too hot or too cold," but I believe our climate is, on the whole, as good for bee-keeping as any in the country. Not that I am satisfied with the above results; but I am convinced that with all the "modern improvements" a much larger yield could be realized. If I had had a honey-extractor this year, as I fully intend to have next, I could have obtained at least one hundred pounds to the hive. During the week they worked on the white clover, the bees could evidently have gathered much more than they did, if they had had combs to hold it. They wasted much time during the greatest yield, in building comb, which the flow of honey did not last long enough to enable them to fill.—I have as yet seen no report of the use of the extractor in the South; but it is certainly just what we want, to enable us to take full advantage of the short seasons of abundant yield which occur several times in each summer. I am only afraid that I will not have time enough to extract all the honey my bees will give me, as I am in business in Baltimore, and leave home at eight in the morning and do not get back until five in the afternoon. Will Novice be kind enough to say how long it takes to empty the frames of a two-story Langstroth hive; and whether the honey will flow freely early in the morning and late in the evening, and oblige.

Daniel M. Worthington.

St. Dennis, Md., Feb. 7, 1871.

[For the American Bee Journal.]

Amount of Honey to Winter a Colony of Bees.

Mr. Editor :—I have read a great deal of the experience of different beekeepers, in regard to the amount of honey required to winter a colony of bees and bring them out in good condition for the next season. Experience has taught me to prefer forty pounds, instead of twenty-five pounds for that purpose. The spring of 1870, proved this to be correct in this section of the country. The late frosts having destroyed the fruit blossoms to such an extent that the production of honey was very insignificant. The honey dearth lasted till in June, when the white clover came into blossom. All my colonies that had from thirty-five to forty-five pounds of honey, when put into winter quarters the fall previous, did well for the season, giving swarms and surplus honey. But those having only from twenty-three to twenty-eight pounds at that time, had to be fed in April and May, to keep them from starving, as well as to keep them breeding; and they gave no swarms and no surplus honey. This would undoubtedly have been different, had the spring been a good honey season; but the case here was the reverse. Hence we had better be prepared for what may come, as we have not the ruling of the season. Then, in the spring, if the yield of honey comes plentiful, we can regulate the balance with the honey machine.

I am surprised to see still so many ninnies on bee-hive patents. In nine cases out of ten, these are moths of the most ravenous breed, or otherwise humbugs of the deepest dye. They can always be known by the stripes on the back—that is, by using some of the Langstroth claims, without deigning so much as to give him credit in the least for his invention. You may hear them at the fairs or some other public gathering, crying out MY PATENT hive, and loudly condemning the Langstroth hive, when at the same time every good point of their hive is pilfered from the Langstroth claims. There is so much of this sort of imposition carried on, that it is quite a drawback on the movable frame system. "But," says some one, "about so many will be humbugged any way, and it might as well be on bee-hives as on any thing else." Well, that might do if it did not affect so important a branch of business. Sometime hereafter I shall look after some of the other humbugs in this line. I have taken the Bee Journal for over three years, and expect to continue to take and read it as long as we both live, for I do not wish to be divorced from it.

H. W. W.

Mendota, Ills.

A writer in the North American Review, many years ago, asserted that bees sometimes suffered from dyspepsia; but from their sober and correct habits, it is presumable that they are exempt from gout and rheumatism.

THE AMERICAN BEE JOURNAL

Washington, March, 1871.

☞ The proceedings of the Cincinnati Convention occupy so much of our space this month, that many communications are again unavoidably omitted; as also the usual monthly correspondence of the Journal. If the honey receptacles of our friends be as well crammed next summer as our columns are likely to be crowded, there is a good time coming for those who have plenty of bees and know how to manage them skilfully.

☞ A meeting of the Michigan Bee-keepers' Association will be held at Lansing, on Thursday and Friday the 23d and 24th of this month. A large attendance and interesting discussions are expected.

☞ In reply to inquiries from several quarters, we would say that a person making or using a patented hive, or one any part or portion of which is patented, is liable to damages, if he has not bought or obtained the right of using such from the patentee or patentees. Making such hives for sale subjects the maker or vender, as well as the user to the penalties of infringement. Buying the right to use, make or sell a patented improvement of any patented hive, does not secure the right of making or using such part or portion of the hive as is covered by the original patent. However good or valuable the patented improvement may be, if it cannot be used except in connection with the patented article of which it is an improvement, it is indispensably necessary to procure a right or license from the original patentee also. Nor can the original patentee use, make, or sell the patented improvement, without compensating or obtaining a license from the patentee of such improvement. Each party has the sole control of his own particular invention, and is entitled to compensation for it if used; and third parties, purchasing from either, occupy precisely the position of the party from whom they purchase, or under whom they hold. This, of course, embraces also any further or subsequently patented improvement. Hives simply embodying infringements or evasions of an existing patent, confer no right whatever, but subject both vender and user to the penalties of the law.

The Baron of Rothschütz, at Pösendorff, near Laybach in Carniola, cultivates bees on an extensive scale. His apiary numbers more than five hundred colonies, under the superintendence of a manager, who attends to them exclusively from spring till fall, from dawn to dusk, supplying on an average fifteen fertilized queens daily during the season. He has 6,500 frames for his hives, of which 3,000 contain combs and honey.—The apiary is subdivided into seven departments. First, the honey department, with 100 movable comb double hives, to accommodate two hundred colonies, second, a stand with 202 colonies, which supply 606 small or nucleus stocks, furnishing bees to accompany queens sold; third, 250 colonies devoted to queen raising; fourth, 250 nucleus hives, to receive and hatch queen cells; fifth, a swarming stand, with 90 movable frame hives; sixth, a stand of thirty-six movable frame model or pattern hives, to supply the demand of customers promptly, and seventh, a stand of 120 provincial hives containing Carniolian bees, to supply those who desire to obtain full stocks of that race or variety of the honey bee in the peculiar hive used by the peasantry of the country.

AMERICAN BEE JOURNAL.

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H. A. King's Hive, Claims, and Patents.

As some of our readers may have misconceived the purpose of the remarks we made, in the February number of the Journal, respecting Mr. H. A. King and his patents, or may be induced to attribute them to motives which certainly did not influence us in preparing them, we regard it as only just and fair to the bee-keeping community, to Mr. King, and to ourselves, to make a formal and full exposition of his claims, and of the true character of his three patents.

In doing this we take up Patent No. 1, bearing date November 24th, 1863, which was applied for and granted to H. A. King and Jacob Loughmaster.

The *claims* in the application for this patent, were as follows:

First, the slide B, provided with the notches *d*, *d*, and applied to the hive as shown in combination with the openings *b*, and pillars *c* at the front of the hive, as and for the purpose set forth.

Second, the projections on the top and bottom bars, *o*, *p*, of the comb frames *G*, to serve the two-fold purpose of keeping the comb frames at a proper distance apart, and at a proper distance from the walls of the hive.

Third, the fitting of the honey-board *E* on the rebates *l l* within the hive, and also the fitting of the slide against the rebates *g g* in a similar way, in the manner and for the purpose specified.

Fourth, the cross-bar *K* at the upper end of the slide *f*, provided with bevelled notches *j j*, to fit over the bevelled surfaces *i*, at the upper ends of the front and back of the hive, for the purpose specified.

Fifth, securing the cap *H* on the hive, by having the frames of sufficient dimensions to fit on the top of the body *A*, and securing strips *s* within the cap *H*, to rest on the top of the body *A*, and support the cap as set forth.

Sixth, the flap or slide W, attached to the hive and provided with holes *a*, *c*, in combination with the holes *v*, *b*, in the side of the hive, and the groove *t* in the inner surface of the side of the hive, as and for the purpose specified.

The first, second, and sixth of these claims were rejected *in toto* by the Patent Office. The third was granted, with a modification restricting it to the "fitting of the honey-board *E* on the rebates *l l*, within the hive." The fourth and fifth claims were allowed, as they stand. None of these claims, either separate or in combination, cover anything of special value in the construction or use of a hive; while the infringement of the Langstroth patent consisted in the use of the movable frames with separated tops, and the shallow chamber, without license from the owners of said patent. The infringement was long since acknowledged by Mr. King, and it is therefore not necessary to dwell on this point; but we wish to state here, and desire it may be borne in mind, that the rejected second claim was for a frame substantially similar to that of the Berlepsch hive, in use in Germany since 1853, not patented there or in this country, and which of course was public property here *ten years* before Mr. King endeavored to obtain a patent for it. He may not have been aware of this when he made his application, but it is a fact nevertheless.

We proceed to Patent No. 2, granted October 10th, 1865, on the application of H. A. King, N. H. King, and F. S. Walker.

The claims made in the original specification were as follows:—

First, the movable block *t* used in connection with the slides *B*, for enlarging or contracting the entrance, for the purposes set forth.

Second, the bottom bar *p* made to form the comb-guide *r* and double projections *g*, to secure straight combs of proper thickness and keep the frames an exact distance apart and from the walls of the hive.

Third, the top bars *o* with openings *c* made to form a chamber floor to avoid the usual air space above and between the frames and bring the surplus honey-boxes in connection with a double tier of honey-boxes, or the placing of one or more boxes upon another box or boxes, operated substantially as set forth.

Of these claims the first and third were rejected. Another claim was then substituted for the first, which was granted, and reads thus:—

"First, the comb-frames *D*, provided with upper and lower bars *o*, *p*, constructed and arranged substantially as and for the purposes described.

The second claim was modified and then allowed. It reads as follows:—

Second, the lower bar *p* of the comb-frames, bevelled so as to form the comb-guide *r* for the purpose of securing straight combs, and provided with the double projections *g* to keep the frames at a proper distance from each other and from the walls of the hive.

Here are two attempts, by resort to mere combination, to secure a patent on two several things that were public property long before; namely, the triangular comb-guide or bevelled strip suggested by the celebrated surgeon John Hunter, of London, in 1793; and the double projections used in the Berlepsch hive ten years before, "as and for the purposes described," and which was already rejected among the claims for Patent No. 1. These things were and are public property, and never should have been patented in any form of combination with frivolous and useless devices. The endeavor also made to form an air-chamber, and thus "avoid the usual air space," seems to be the same grand discovery elsewhere proclaimed by Mr. King as "destined to revolutionize

Entered according to Act of Congress, in the year 1870, by Samuel Wagner, in the office of the Librarian of Congress, Washington.

all other systems of bee-keeping." The latter claim was rejected by the office, and the former was granted only in combination with a modification of the frames inefficient "for the purposes set forth" of securing straight combs. The use of the movable frame in the hives thus constructed was so obviously an infringement of the Langstroth patent, that Mr. King agreed to pay Mr. Langstroth a percentage for the privilege of using it in Mr. L.'s territory.

We now reach the "grand climacteric," Patent No. 3, dated September 8th, 1868.

In this case the application was originally made April 13th, 1868; and the claims then made were as follows:—

First, forming comb-guides of thin strips of wood, of any desired width, as described and for the purposes set forth.

Second, forming comb-guides of thin strips of wood, each alternate comb-guide being wider than the intervening guides, as and for the purposes set forth.

Third, waxing strips of wood or other substances and pressing the wax to form the base of cells of worker comb, for the purposes set forth.

Fourth, the close-fitting top bars *o* with slots *j*, constructed as and for the purposes set forth.

Fifth, the triangular strips *g*, with the projecting nails *v* to hold the frames in their place and from the walls of the hive.

Sixth, a double tier of honey boxes, with slots, as described and for the purposes set forth.

Seventh, the adjustable strips *w*, to hold the close-fitting top bars together and against the movable sides.

On these claims the Examiner in charge remarked, June 11th, 1868, "the applicant should state more explicitly what the comb foundations in the honey-boxes are, and how they are affixed. Sawkerfs referred to [in the specification] are not found in the drawing or model." Returned to be amended. Again, July 16th, 1868, "the first claim is fully met by patent of Edward Kretchmar, July 28th, 1867. The description in the specification of this patent containing a clear reference to this device. Third claim anticipated by patent of Henry A. Tozier, October 9th, 1866. The first part of fourth claim is rejected in view of the patent of Samuel and Minor Taylor and Edmund Cox, February 13th, 1866. In relation to the second part of said claim, a pending application shows stamped comb foundations, and it is believed to be not new. This specification contains much superfluous matter, and is not sufficiently specific in some particulars relating to construction. Should be returned and corrected according to pencil notes." July 19th, 1868, the applicant is informed that "neither model nor drawing exhibits a wax-line foundation in the surplus honey-boxes. The first claim should therefore be limited to what is shown, viz., comb foundations in combination with the long slots *g* in a double tier of honey-boxes, as shown and described."

Finally, the patent was issued September 8th, 1868, with the following descriptions and claims granted:

"Through the top of the lower honey-boxes are slots, at right angles with which latter are placed the guide-combs. Slots are formed in the upper of the top bars, between which latter are nailed the comb-guides.

Claim 1.—The slots *z*, in connection with a double tier of honey-boxes with comb foundations, as specified, and for the purposes set forth.

2. Constructing the close-fitting top bars *O*, with comb-guides *U*, and slots, as specified, and for the purposes set forth.

We see, from the Examiner's report above, that the claim absolute to the comb foundations was distinctly rejected as not being a new invention, and is finally allowed only *in connection* with slots and a double tier of honey-boxes. There is no patent granted on it *per se*, distinctly or specifically. Yet, in the face of this, Mr. King, in his paper for May, 1870, presents the reader with an engraved illustration of a machine, which is introduced to notice after this fashion: "The engraving represents a machine for making worker-comb comb-guides, invented over two years ago, by H. A. King, and secured by letters patent September 8th, 1868." Now let the reader carefully scrutinize this statement, and while doing so, bear in mind that there is only one patent granted to H. A. King, September 8th, 1868, namely, this same patent No. 3, already so minutely described. What does the language here used purport to mean? Is it the "machine" which is claimed to have been then patented? Certainly not! No *machine* is anywhere mentioned or alluded to in this patent. Well, then, is it the "*worker-comb comb-guides*" that are claimed as having been patented? That cannot be, for we have seen that the claim for them was explicitly rejected? Yet the language implies one of these things, or the other. He has a patent for their use in a particular combination, yet he is making them by a *machine* and selling them separately as comb-guides or foundations, under the assumption that he has a patent, either on them or on the machine by which they are made, while the plain truth is that he has no such patent.

The history of those comb foundations is somewhat curious, and being altogether pertinent, may as well be related here in passing. These foundations are substantially the invention of Mr. Mehring, of Rhenish Bavaria, in Germany, made in 1858, and referred to, described and figured in the third edition, page 373, of Mr. Langstroth's work on the "Hive and Honey Bee," published in 1859. We quote the passage: "This figure shows the form of a metallic stamp invented by Mr. Mehring, of Bavaria, in Germany, *for printing or stamping the foundations of the combs* upon the under side of the frames. After the outlines are made, he rubs melted wax over them, and scrapes off all that does not sink into the depressions. Mr. Mehring represents the device as enabling him to dispense with guide-combs, the bees appearing to be delighted to have their work so accurately sketched out for them. In first using the triangular guides, I waxed their edges, but soon found that this was unnecessary. Mr. Mehring's foundations may also be found to answer without any wax. Mr. Wagner suggests forming these outlines with a simple instrument somewhat like a wheel cake cutter. Where a large number are to be made, a machine might easily be constructed which would stamp them with great rapidity." We have here plainly the original idea of Mr. King's comb-guides and of his *machine* for making them with rapidity; but as that part of this account of Mr. Mehring's invention which referred to the suggestion for this purpose, appeared in only a portion of one edition of Mr. Langstroth's book, (having been subsequently omitted to make room for other matter,) it should by no means be supposed that Mr. K. saw it and acted on the hint it furnished—making an invention and contriving a "machine," which he *imagines* he has patented. Oh no, by no manner of means! It is simply one more of those striking coincidences which show that great minds will think very much alike, when contemplating the same subject intensely. Having now made one more "great discovery," by finding that he has all along been laboring under a delusion, it is to be hoped he will cease to make and sell *patented* comb foundations. He will find *unpatented* articles much more popular, in his neighborhood.

But let us now return from this seeming digression, to the beauteous features of patent No. 3.

What strikes us as peculiarly remarkable in this regard is the fact, that after having incurred the trouble and expense of procuring three patents, Mr. King should successively abandon them all, condemning and rejecting his own devices. Certainly, if actions speak louder than words, he has done this very thing. In his circulars for 1871, he exhibits as his own, a style of hive in which, with two exceptions, (and the things excepted can have substituted for them unpatented devices, which are superior in effecting the purpose desired,) he *leaves out everything which he claims to have invented and patented in his three patents.* The cross-bar, with all its patented appendages, disappears, and the frame is made as simple as possible. This is the style of hive he is now making and selling; and it can be easily shown that (with the two exceptions alluded to), if this hive is not covered by the Langstroth patent, as we believe it to be, it is public property. The assertion has often been made, by intelligent practical bee-keepers, that a hive can be made almost exactly resembling the King hive in external appearance, and so made that when opened it shall be found to contain not a single feature patented by King, which, nevertheless, when examined by experts, shall be pronounced to be A MUCH BETTER *hive than the King hive*, precisely because it has *none* of his patented features. But who could have thought that Mr. King himself would do this very thing; as he has done, according to his own circulars? Thus demonstrating by his own act and the hives he is now making and selling, not only that he has made no invention of any special importance; but that, to keep his hive in the market, he has found it necessary to disuse and thereby discredit his own patents.

Our object in this article has been simply and plainly to expose what we believe to be false pretensions and baseless claims. In doing so we have restricted ourselves closely to this, allowing nothing personal to divert us therefrom. And now, to avert all misconception or misconstruction, we here offer the columns of the American Bee Journal to the extent of two pages monthly for three months to come, to Mr. King, for anything he may have to say in refutation of our remarks, or in explanation, exculpation or vindication of his course as a patentee, inventor or dealer in bee-hives, or articles in connection therewith. And, should Mr. King fail to avail himself of this offer, we extend it to any purchaser of territorial rights under him, who may feel disposed to undertake the task.

[For the American Bee Journal.]

H. A. King's and L. L. Langstroth's Patents.

In the spring of 1867, Mr. H. A. King entered into an arrangement with L. L. Langstroth & Son, by which he agreed to pay a certain sum on all sales of hives, rights and territory subject to his patents, when such sales were made in territory still owned by Langstroth. The agreement confined him to the use of certain *slots* in the topbars of his frames, for admitting bees to top boxes, as shown in a model deposited with Langstroth & Son—that is, he was allowed to use the Langstroth frames with tops partially separated, and no other patented feature of that invention. On September 8th, 1868, Mr. King took out a patent under which he no longer uses the *slots* or notches by which the tops of his frames were partially separated; but substitutes *mortices* for them in the tops of the frames, thus allowing those tops to fit *closely* together throughout *all* their length. To inquiries frequently made whether we considered those mortices an infringement of our patent, if used without proper license, we replied in substance that we did not. It was obvious to us that this mortice enabled Mr. King to use an important feature in my invention, and one very fully set forth, both in the original patent and the re-issue, viz., the allowing bees to pass above the frames, into supers, so that the honey might be obtained in the most beautiful and salable form, and be safely removed from the hive even by timid and inexperienced persons—a thing never even *contemplated* in any movable frame hive before mine. Still it seemed to me that it did not conflict with the *wording* of my claims, and that therefore I could not prevent its use without another re-issue and better wording of my claims; and as such re-issue would have relieved all parties from liability for any previous infringement, we thought it best to acquiesce in its use.

In the spring of 1870, only a few days before the death of my son, Mr. King notified us that as he had not for some time used the notches or slots for which he agreed to pay us a percentage on all his sales in our territory, he must decline paying us anything more under that agreement. Having now recovered my health so much as to be able to examine his patent more thoroughly, and having taken the ablest legal advice to be procured, I am satisfied that Mr. King's mortices will be pronounced by the Courts to be "a mere colorable evasion," and therefore a substantial infringement on my rights. Having already, in a personal interview, informed Mr. King of the view I now take of this matter, justice to him, and to those parties intending to purchase under him, supposing that his hive is confessedly no infringement upon mine, renders it proper that I should make this public statement. Those parties also, who have purchased under my patent, and who have been damaged in their pecuniary interests by an opinion given by me without proper legal advice, have the right to demand that I should take the earliest opportunity to state that I regard the use of Mr. King's mortices, or any equivalent device for the purpose of passing bees above the frames into boxes, to be an infringement upon my patent, unless licensed to be used by the owners of said patent; and that the earliest possible steps will be taken to have the matter decided by the United States Courts.

L. L. LANGSTROTH.

Oxford, Ohio, March, 1871.

To the Bee-keepers of the United States.

It is well known that L. L. Langstroth's Patent of October 5th, 1852, was re-issued May 26th, 1863. Though satisfied that the original patent would be held by the Courts to cover all that I wished to claim, the re-issue was asked for to enable me more fully and clearly to show exactly what I had done and claimed; so that, in case of litigation, no time need be lost in ascertaining those all-important points. When making my application, I carried to the office every book, in English, German, and French, which I could procure from Mr. S. Wagner's library and my own—the former containing probably the largest collection of German, and the latter of English works pertaining to bee culture, to be found in this country. Prof. C. G. Page and Mr. Addison M. Smith were at that time the Examiners in charge, before whom my application properly came. There being then very few works on bee culture in the library of the Patent Office, they were thus enabled to examine my case with all the information which I had been able to procure from any source, having any bearing on the subject of movable comb hives—as I desired nothing which could not be granted to me with the fullest information within their reach. Mr. Page is no longer living, but Mr. Smith is now a solicitor for patents in Washington. My original specification for the re-issue (which I was requested by the office to abbreviate, but which is still on their files) very clearly points out the essential difference between my invention and those of Huber, Munn and Debeauvoys, as will be seen from an extract from a communication published in the PRAIRIE FARMER, in October, 1866.

"Prior to the re-issue of Mr. Langstroth's patent in 1863, the opposition had relied on the idea that his patent was anticipated by foreign inventions; but at the time of the re-issue, and on the hearing now, *Mr. Langstroth himself furnished and laid before the office every work having any bearing on the subject, both foreign and native, nearly thirty in number*, embracing some very rare works—one being the only copy existing in this country. On the recent hearing, they abandoned, wholly, the idea of its being anticipated by any foreign invention, and relied on the effort to prove a prior invention in this country—*no less than four of them* swearing that they had invented or used the same thing prior to Langstroth! But these parties had done what Job so fervently desired his enemies to do—they had each of them "written a book!"—and those books—if there had been no other testimony—were sufficient to decide the case against them. There probably has never been a case in the office in which there was so much of fraud and perjury as was furnished on the part of the opposition in this case; and it is no wonder that both the Examiner and Commissioner came to the conclusion that the testimony was "*not worth consideration.*"

The application for the extension of my patent was hotly contested. Most of the parties who fought it have passed off from the bee-stage, and I have never regretted that I did not spread before the public, the testimony now in the records of the Patent Office, which would have consigned some of them to infamy; and which might, if pressed home, have placed others in the penitentiary. I can confidently appeal to the bee-keeping public who have known my course, to bear me out in the assertion that I have never personally assailed any one, but have often, under circumstances of great provocation, refrained from using very damaging facts against those who have assailed me.

The generous treatment which I received from the two Bee-keepers' Conventions, at Indianapolis and Cincinnati, have, I trust, put to rest forever all the aspersions which have been heaped upon me by ignorant or designing men, as being the mere *introducer* of a foreign invention, which, with some unimportant modifications, I am charged with having patented and attempted to palm upon an unsuspecting public as my own. If ever these charges are again made, by those who know the facts, they must renounce all claims to truth, honor, or even common decency.

In the contest, which must soon come before the courts of law, I hope that every legitimate weapon which can be used to break down my patent, will be brought forward; and I now hereby invite all the bee-keepers of the United States, and all anywhere else, who may see this appeal, to send to H. A. King & Co., 240 Broadway, New York, against whom suit has been brought for infringing on my patent—any information contained in books or printed publications, in any language, prior to the issue of my patent, (October 5th, 1852,) which seems to have any adverse bearing on my case, and to bring forward any knowledge which they may possess of any invention made in this country, but not described in print, by which the claims of my patent may be either weakened, limited, or invalidated. I stand upon what I believe to be my rights. If I have none, but am unfortunate enough to be the honest *original* inventor, who, to his surprise and sorrow, finds that he was not the *first* inventor, the sooner I know this, the better; that I may at once cease from claiming what would then belong to the public, and not to me.

L. L. LANGSTROTH.

Oxford, Ohio, March, 1871.

[For the American Bee Journal.]

The Proposed Langstroth Memorial.

MR. EDITOR:—I desire through the columns of our Bee Journal, to thank the bee-keepers who, at Cincinnati, proposed to raise a testimonial fund for my benefit.

I must, however, most respectfully decline receiving any money which may be contributed for this purpose. From the report you published of the proceedings of the Association, it may be inferred that I did what I properly could to prevent that body from sanctioning the measure proposed. The reporter of those proceedings hardly does justice, however, to the strong expressions which I used to induce an abandonment of the testimonial project. The report states that "Mr. Langstroth said he *hated* to have his private affairs occupy the time of the Association," and the chairman, Rev. Mr. Van Slyke, fearing that I might be misunderstood, put the direct question to me: "You do not intend to reflect on the Committee or the Association." As the time for adjournment had nearly arrived, I ceased further opposition, but now embrace the first favorable opportunity to put myself right before the bee-keeping public.

Perhaps I can in no better way express my feelings on this subject than by quoting from an article written by me for the July number of the Journal for 1869, page 20, under the caption of JUSTICE,* as follows: "It is with increasing reluctance that I am compelled so often to obtrude upon the public my claims, and the various ways in which they have been ignored by many bee-keepers; but if your readers feel under any obligation to me for the invention of a hive which has confessedly given a new impulse to bee-culture, I can easily show some of them a way in which they can do me justice. Let them read my article in this number in 'reply to B. C. Auchampaugh's questions about patent rights and claims,' also the advertisement of L. L. Langstroth & Son, showing what territory in the extended patent is still controlled by them. If they are using any style of hive clearly covered by my claims, (see page 152 of the 8th number, volume 4 of the BEE JOURNAL,) no matter of whom they may have purchased the patent, they are using my property, for which they have paid me no equivalent. Our advertisement will show them how they can do us justice.

"It is true that the larger part of the most valuable territory has passed out of our hands, belonging now to Mr. R. C. Otis, of Kenosha, Wisconsin, who, by his untiring energy, has perhaps done more than any other person to introduce the movable frame principle to the public, and who has not yet received any adequate remuneration for the time, money, and energy which, since 1856, he has devoted to this business; but, like myself, is a poorer man for all he has done."

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* The title of the article quoted from was originally, "JUSTICE, NOT CHARITY," but I changed it at the suggestion of a friend, who thought that I might be regarded by some as reflecting on Mr. Walter Hewson, whose friendly notice suggested the remarks.

I have not changed my sentiments since the above was written. Let no one, therefore, contribute to the fund with the expectation that I can be induced to accept any part of it. I will, however, now suggest a way in which what has been or may be subscribed to it, may be used, so as to be truly honorable to the bee-keepers of North America.

If my movable comb frames have effected a great revolution in bee-keeping in this country, the honey-emptying machine of Maj. Von Hruschka will so carry on the good work that it will be safe to say that the Hruschka (for no other name should be given to his device) will at least double the yield of honey attainable without it. Let us then raise money enough to procure a beautiful gold medal with suitable devices and send the same to Maj. Von Hruschka, as a slight testimonial of our grateful appreciation of the important aid he has rendered us, in being the first to suggest and employ centrifugal force to empty honey from the comb.

L. L. LANGSTROTH.

Oxford, Ohio, March, 1871.

[For the American Bee Journal.]

The Poison of the Honey Bee as a Medicine.

In the first edition of my work on the "Hive and Honey Bee," published in 1853, I said :—

"An intelligent Mandingo African informed a lady of my acquaintance, that they do not in his country, dare to eat *unsealed* honey until it is first *boiled*. In some of the Southern States all unsealed honey is generally rejected. It appears to me highly probable that the noxious qualities of the honey gathered from some flowers, is for the most part evaporated before it is sealed over by the bees; while the honey is thickening in the cells. Boiling the honey would of course expel it more effectually, and it is a well ascertained fact that some persons are not able to eat even the best honey with impunity, until after it is boiled! I believe that if persons who are injured by honey, would subject it to this operation, they would usually find it to exert no injurious influence on the system."

"I have met with individuals upon whom a sting produced the singular effect of causing their breath to smell like the venom of the enraged insect."

"While the poison of most snakes and many other noxious animals affects only the circulating system, and may therefore be swallowed with impunity, the poison of the bee acts powerfully, not only upon the circulating system, but upon the organs of digestion."

"An old writer recommends a powder of dried bees for distressing cases of stoppages; and some of the highest medical authorities have recently recommended a tea made by pouring boiling water upon bees for the same complaint, while the homœopathic physicians employ the poison of the bee, which they call *apis*, for a great variety of maladies. That it is capable of producing intense headaches, any one who has been stung, or who has tasted the poison, very well knows."

"Bees often thrust out their sting, in a threatening manner, even when they do not make an attack; when extruded from its sheath, it exhibits a minute drop of poison on its point, the odor of which is quickly perceived, and some of it is occasionally flirted into the eye of the apiarian, causing considerable itching." *Edition of* 1857.

I have known for many years that many of the peculiar effects produced upon the human system by honey, were owing mainly, if not entirely, to the poison of the bee in the honey eaten. I know of no one before me who has called the attention of medical men to this important fact.

Every experienced bee-keeper knows that it is next to impossible to remove honey from a hive without exciting the bees; the least tap upon the hive causes them to thrust out their stings, and thus to bedew the combs with their poison, so that every disturbing influence causes an effusion of more or less poison, even when the honey is not, at the time of this disturbance, taken from the hive. This poison, adhering to and drying upon the honey comb, will, for a very considerable time, be active in its effects.* It is a well-known fact that some persons cannot eat even a very little honey without distressing cholic pains; and I have repeatedly demonstrated that if the honey is boiled, or brought nearly to the boiling-point, such persons can eat it with impunity—while they cannot eat safely a small quantity of loaf sugar in which some of this bee-poison has been put. As the bee-poison is very volatile, slightly boiling the honey seems to dissipate it entirely.

The fact that there is almost always more or less bee poison in the honey of commerce, and that many of the peculiar symptoms caused by eating honey are attributable to this poison, opens a new source of inquiry to the medical world; and they can now use the vast stores of facts and opinions as to the medical virtues of honey, furnished by Aristotle, Hippocrates,† Galen, Pliny, and a host of old and medical authors.

It is obvious from these remarks, that the remarkable effects claimed by the homœopathists to be produced upon the human system by the bee poison, and which they have regarded as quite a recent discovery, may be traced back almost to the remotest antiquity, and found to have equally important relations to the old schools of medicine.

Schuckard, in his recent work on "BRITISH BEES," says: "The earliest manuscript extant, which is the medical papyrus, now in the Royal Collection at Berlin, and of which Brugsch has given a fac-simile and a translation, dates from the nineteenth or twentieth Egyptian dynasty, accordingly from the reign of Ramses II., and goes back to the fourteenth century before our era. But a portion of this papyrus indicates a much higher antiquity, extending as far back as the period of the sovereigns who built the pyramids, consequently to the very earliest period of the history of the world.

"It was one of the medical treatises contained within the temple of Ptah, at Memphis, and which the Egyptian physicians were required to use in the practice of their profession, and if they neglected such use, they became responsible for the death of such patients who succumbed under their treatment, it being attributed to their contravening the sacred prescriptions. This pharmacopœia enumerates amongst its many ingredients, honey, wine, and milk; we have thus extremely early positive evidence of the cultivation of bees. That they had been domesticated for use in those remote times is further shown by the fact mentioned by Sir Gardiner Wilkinson, of a hive being represented upon an ancient tomb at Thebes.

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* Those using the Hruschka or centrifugal machine for emptying honey from the combs—so named after its inventor Maj. Hruschka—should be careful to heat nearly to the boiling-point all Hruschkaed honey, to be sure that the poison of the bee has been effectually expelled from it. This is the more necessary, as the process of removing for emptying is more likely to excite the bees than the simple removal of the honey in boxes.

† Born 460 years before Christ.

"It may have been in consequence of some traditional knowledge of the ancient medical practice of the Egyptians, that Mahomet, in his Koran, prescribes honey as a medicine. One of the Suras, or chapters, of that work, is entitled 'the Bee,' and in which Mahomet says:—The Lord spake by inspiration unto the Bee, saying: 'Provide thee houses in the mountains and in the trees [clearly signifying the cavities in the rocks and hollows of trees, wherein the bees construct their combs], and of those materials wherewith men build hives for thee; then eat of every kind of fruit, and walk in the beaten paths of thy Lord.' There proceedeth from their bellies a liquor, wherein is a medicine for men. Verily, herein is a sign unto people who consider.

"It is remarkable that the bee is the only creature that Mahomet assumes the Almighty to have directly addressed. Al-Beidawi, the Arabian commentator upon the Koran, whose authority ranks very high, in notes upon passages of the preceding extract, says, 'The houses alluded to are the combs, whose beautiful workmanship and admirable contrivance no geometrician can excel.' The 'beaten paths of thy Lord,' he says, 'are the ways through which, by God's power, the bitter flowers passing the bee's stomach, become honey; or, the methods of making honey he has taught her by instinct, or else the ready way home from the distant places to which that insect flies.' The liquor proceeding from their bellies, Al-Beidawi says, 'is the honey, the color of which is very different, occasioned by the different plants on which the bees feed; some being white, some yellow, some red, and some black.' He appends a note to where Mahomet says, 'therein is a medicine for man,' which contains a curious anecdote. The note says, 'The same being not only good for food, but a useful remedy in several distempers.' There is a story that a man once came to Mahomet, and told him his brother was afflicted with a violent pain in his belly; upon which the prophet bade him give him some honey. The fellow took his advice; but soon after, coming again, told him that the medicine had done his brother no manner of service. Mahomet answers: '*Go and give him more honey*, for God speaks truth, and thy brother's belly lies.' And the dose being repeated, the man, by God's mercy, was immediately cured."

Butler, in his "Feminine Monarchy," speaks as follows:

"Honey is hot and dry in the second degree; it is of subtle parts, and therefore don't pierce as oil, and easily passes into the body. It has a power to cleanse, and some sharpness withal, and therefore it openeth obstructions: it cleareth the breast and lights of those humors which fall from the head to those parts: looseth the belly, and purgeth the foulness of the body, and provoketh urine: it cutteth and casteth up phlegmatic matter, and therefore sharpeneth the stomachs of them, which by reason thereof have little appetite: it purgeth those things which hurt the clearness of the eyes: it nourisheth very much: it breedeth good blood: it stirreth up and preserveth natural heat, and prolongeth old age: it keepeth all things uncorrupt, which are put into it, and therefore physicians do temper therewith such medicines as they mean to keep long; yea, the bodies of the dead being embalmed with honey, have been thereby preserved from putrefaction. It is a sovereign medicament for outward and inward maladies. It helpeth the griefs of the jaws, the kernels growing within the mouth, and the squinanci or inflammation of the muscle of the inner gargil, for which purpose it is gargarized and the mouth washed with it. It is drunk against the biting of a serpent. . . . . All which premises being considered, no marvel though the wise king said *My son eat honey, for it is good*. . . . . Yea, honey, if it be pure and fine, is so good in itself, that it must needs be good even for them whose queasy stomachs are against it."

Butler refers to Aristotle, Galen, Pliny, and a number of old writers. Having no time now, to examine what all these old and modern writers have said on the virtues of honey, and to show in how many instances the effects produced by its use upon the human system, must have been owing to the presence of the bee poison,* a few quotations from the elder Pliny (born Anno Domini 23) on the virtues of honey, will be of peculiar interest. I extract from Holland's translation, published in London, in 1601.

"Honey combs given in a gruel made of furmitie first parched and dried at the fire, is singular for the bloody flux and exulceration of the bowels." Vol. 2, page 137. "In the throat the kernels of each side thereof called the tonsils, for the squinanci (quinsy), and all the other evils befalling to the mouth, as also for the dryness of the tongue through extremity of heat in fevers, it is the most sovereign thing in the world," page 135. "Honey boiled is singular for the inflammation of the lungs and for the pleurisy: also, it cureth the wounds inflicted by the sting or teeth of serpents. . . . Honey, together with the oyle of roses, dropped into the ears, cureth their stinging and pain. . . . being used simply alone, and not compounded with other things, it is hurtful to the eyes, and yet others give counsel to touch and anoint the corners of the eyes therewith, when they are exulcerate." "It is an excellent thing for them that be stung, *to take the very bees in drink*, for it is an approved cure." . . . "As touching divers sorts of venomous honey, I have written already; but for to repress the poison thereof, it is good to use other honey *wherein a number of bees have been forced to die*; and such honey so prepared and taken in time, is a sovereign remedy for all the accidents which may come by eating or surfeiting upon fish." Page 363. The italics are mine.

I will close by relating a conversation I had two weeks ago with Mr. Eli Whitney, of New Haven, (Conn.,) son of the celebrated Eli Whitney, inventor of the cotton-gin. Knowing the interest I took in bees and honey, he told me that for years he had suffered from acute chronic catarrh, and that on one occasion he obtained relief from severe pain, his nostrils feeling almost closed. He rubbed his little finger in some honey before him, which was exuding from the comb, and applied it to the inner nostrils as an emollient or lubricator. Experiencing almost instantaneous relief, he continued to use honey freely for this purpose, until now he is almost entirely cured. Had he used boiled honey, he would probably have been but little, if any, benefited thereby; and had he used sugar syrup with bee-poison added, I presume it would have proved equally curative with the honey. The use of honey for catarrh is clearly suggested by the above extracts from Pliny and Butler.

Oxford, Ohio, March 10, 1871. L. L. Langstroth.

* I much prefer this good old Anglo Saxon term to *Apis mellifica*, the name given to it by the homœopathists, but which is the proper scientific name of the honey bee itself.

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A process has been invented by which castor oil is made palatable, and can be eaten on bread like so much honey.

[For the American Bee Journal.]

Novice.

Mar 9.

DEAR BEE JOURNAL:—If we were not afraid you might think Novice boisterous, we would like to sail our hat in the air, and hurrah for our success in wintering again, as our sixty-four are all right, safe and sound; nearly in the same condition as when they were put away last winter. Our better half suggests that if we could manage to sail that same old hat, having been pulled down so often for hybrids, to some inaccessible point, it would be another decided success.

You know, Mr. Editor, our former troubles in wintering, and how it was our main trouble; but with our bee-house we have now done it twice, *without any loss at all.* If those candidates for out-door wintering could go through the examination with us, see the hosts of live bees (the dwindling down after being taken out is all humbug; ours have been out two weeks now, and are working heavily in flour, and many of them would pass well for June) and brood in all stages, they would conclude that bees could raise all the brood in-doors that can by any possibility be required as early as this date, March 9th. We have just got about half through our examination of the hives; have found one queenless, or at least no queen turned up, and another with queen but no brood. But there were so many bees in both cases, that we gave them brood from other stocks that could well spare it, and have no fear that they will not be all right.

And now we must make a confession that reminds us painfully of being only a novice yet, after all; full of blunders as usual, and as it seems we shall always be. We found one queen with wings unclipt, which, you know, we never allow, and accordingly clipt one, and then set her on another frame from the one we removed her from, remarking, at the time, that she was treated much as if they (cross-hybrids) would sting her; but, as she was in her own hive, we shut it up and passed on. A few days later we found a dead queen in front of the same hive, and on opening found queen cells. We have heard of bees stinging their own queen before, but this is our first case of the kind. A fertile queen (March first) is worth, let us see, 100 lbs. of honey at least (the way we manage, remember), and the mortification, &c., 500 lbs. more. But let us try some other more pleasant theme.

W. D. Wright, Knowersville, N. Y., asks as follows:

"I have a wooden extractor, and although the wire cloth is but ten meshes to the inch, and the frames 10 by 14½ inches, when turned the wire cloth hollows so much that any new comb flies out of the frame immediately, all to pieces. Have you had any such experience, and do you know any remedy?"

Lots of experience. For remedy, keep the wire cloth up in its place some way. We have used several cross-bars of heavy wire, but a friend at the Convention gave us the best plan we have heard of, viz.: Take a strip of heavy tin, half an inch wide, double it lengthways, and fasten it across back of the wire cloth, with the smooth edge against it, which will be stiffer than any wire.

"2d. How much space do you leave between the upper and lower set of frames, in the two-story hive?"

Not more than one inch, or the bees will build combs there. We never use a honey-board when the bees are at work above. If they raise brood there, all the better; then we have a side storing hive, ahead of Hazen's, Quinby's, Alley's, or any other, *in our opinion.*

"3d. What do you mean, in the last No., by leaving the hive open in summer?"

Just this: We remove all entrance blocks and back ventilator entirely; and we think all this room is needed for a thoroughfare for a two-story hive of Italians. As for too much ventilation: not at all for a heavy force of bees, and if they are not all such in June, it is your own fault.

"4th. Have you ever sent any honey to New York?"

No. We sold it all, or nearly all, readily in Cleveland.

We said, in our opinion, Mr. Langstroth's remarks were worth more than all else that was said on bees at the Convention. Several persons have asked for an explanation. What we meant is this: Mr. Langstroth, as we felt, was the only one almost whose remarks were up to the times. Community is, and always has been, almost twenty-five years behind him. His remarks on the melextractor were given with full consciousness of the place it is designed to take in future; yet none, or very few, bee-keepers seemed to be aware of this! How many bee-keepers will agree that extracted honey can be produced better for ten cents per pound, than box honey for fifty? Or, if they do, why do they stick to boxes for all the world as they stuck to old box-hives?

He *was* very meagerly reported, as was almost all of the Convention. Almost every prominent bee-keeper could have given, from memory, a much more valuable report. Many important matters were disposed of in three lines that really required forty, and in many instances, the three lines were all *bosh.* We were sorry to find many very important subjects omitted entirely. We could, with little trouble, point out these items, should any one care to have us do so.

Mr. Miller, of Peninsula, asks Novice five questions, page 207, which we answer all at once, by stating that the stock of bees that gave us the three tons and over of honey, last year, were raised entirely from one *twenty dollar* queen, purchased from Mr. Langstroth. As our object has been honey, and nothing but honey, we raised our queens precisely on the plan Mrs. Tupper gave before the Convention. (Reporter omitted it, of course, as it was of great value. What they did state was something that Mrs. Tupper did not say at all, and would not have said. See page 186.)

In regard to the difference in value of Italians and hybrids (we hope the lady will excuse us, if we do not get it exactly as she gave it), she stated that if honey was the sole object, she would get a *pure* queen, imported, if necessary, to insure absolute purity, and then raise all queens from this one, paying no attention to what drones they met. In this way the bee-keeper would have but little trouble, and would be sure of having nothing worse than first-cross hybrids, which, all things considered, will produce as much or more honey than the pure ones. We gave substantially the same thing in the Journal some time ago, in answer to the statement, by an agricultural editor, that Italians were of no use unless kept on an island, &c.

We purchased one other queen of Mr. Langstroth, in the fall of 1869, but lost her before we had raised many queens; and last fall so many of our old queens failed that we purchased twenty-five of Mr. Grimm to replace them, not having time to raise others.

We have thought the cross-colonies most profitable, but find so many exceptions that we should not like to say so.

The lightest colored and most peaceable bees we ever had are from a queen now in her third summer, which laid so very few eggs that we have been obliged to assist her with brood; but kept her, because we could not think of killing a pretty queen. In fact, she was about as prolific as Grimes's hen, as the rhyme goes—

> "Whoever stole our speckled hen,
> Had better let her be;
> She laid two eggs on every day,
> And Sundays she laid three."

Well, as Mr. Langstroth said aptly, there are exceptions to all rules in bees, and, sure enough, yesterday we found our slow queen had filled her hive with bees, and has now nearly as much brood as any stock in our apiary. She is now entering upon her *third* season, remember.

On page 218 is another question for Novice. We can empty every comb in a two-story Langstroth hive in fifteen minutes, probably about twenty minutes on an average; that is, we have taken care of honey from thirty in a day. Honey will flow, without any trouble in warm weather, as soon in the morning as you can see, and even after dark or by moonlight.

We have just received a Peabody melextractor, and are much pleased with it; have no doubt it will answer every purpose. What revelations melextractors are destined to unfold to the bee-keepers of 1871, after honey boxes are among the things that were, is prominent in the dreams of NOVICE.

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[For the American Bee Journal.]

Unreliable Statements.

The novice in bee-keeping who reads attentively the periodicals and books on bees, for the purpose of learning *real facts* respecting the bee and the hive, must at times be sadly puzzled.

Extraordinary statements are so often made, in minute detail, having all the appearance of reality, and yet so contrary to all previous experience, that one hardly knows *what to believe.* It is a great pity that any one who really wishes to impart information on so important a subject, and where there are so many beginners, should theorize, or guess, or imagine, and then make his statements as if they were real facts. There are articles constantly appearing in print, about which an intelligent bee-keeper *knows* that the writer has either been grossly deceived himself, or that he is deceiving others.

If such authors as Huish and Decouedie, &c., were now living, they would be heartily ashamed of their works,—so full of errors, and yet stated with so much confidence as to lead hundreds astray. Of course it is true that there is much relating to the bee which is not fully understood. It is one of the charms of bee-keeping that *there are mysteries;* and he who makes a real discovery will be a benefactor; but let their statements be well authenticated.

When a man, for instance, says that he "he took twelve queen cells and placed them in separate boxes, 3 by 2½ inches, with four to six drones in each, and in two days nine out of the twelve were fertilized," we have a statement which contradicts the experience of all other apiarians. *It* MAY *be so.* It would save a world of trouble if it could be demonstrated beyond all doubt; but as long as there is a doubt, it is of no practical benefit in bee-keeping. There was a time when all the world, social, religious, and scientific, was wrong upon one point, and Galileo alone was right. So it may be now, in this case; but it is to be hoped that with the spread of bee-keeping, and with able periodicals, like the Journal, the time will come when all that is mere guesswork now will be so well established that a professed apiarian would hardly be willing to make important assertions without very great care in giving all the facts, and those so well attested that, in the mouth of two or three witnesses, every word may be established.

Holmesburg, Pa. D. C. MILLETT.

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[For the Ameriran Bee Journal.]

Bees in Colorado.

MR. EDITOR:—In the February number of the Bee Journal, Mr. N. Cameron answers the question, asked in a former number, "Can Bees be kept in Colorado?" I was in Colorado in 1866, and had occasion to travel considerably through the months of July and August; and from what I could see, I made up my mind that Colorado was a No. 1 locality to keep bees in. The part that I was in mostly was in the vicinity of Denver. On a small creek ten miles north of Denver, I saw two stands of bees in the yard near a house. As these were the first I had seen in the Territory, my curiosity was at once aroused, and, hitching my donkeys to the fence, I struck for a look at the dear little pets. But, to my surprise and chagrin, I found them guarded by a faithful canine, who would not let me advance without a pitched battle; and as he was a rather rough looking fellow, I came to the conclusion that "discretion was the better part of valor," and retreated in good order. Still, not being willing to give up my object so easily, I boldy marched up to the door of the house (to which the faithful sentinel made no serious objection), and discovered that the family were away from home; thus I had to give up my investigation. But I inquired of a neighbor about the bees, and this is what he told me: In the fall of 1865 he helped his neighbor to carry his bees into a shed, and it was as much as they could do to carry them. He had but one stock in the spring, and they had swarmed that year. They were in very large box hives, and from appearances were entirely neglected.

All along the creek bottoms, ditches, roadsides, and borders of fields, it was one endless sea of wild mustard and golden rod. From the mustard I have seen hanging large drops of nectar, which glistened like jewels in the morning sunbeams. On examination, I found this to be genuine nectar, though of rather a pungent, unpleasant flavor. There are also numerous patches of a small shrub that very much resembles the Red Root or Tea plant, so common in the western prairies. This comes into bloom about the first of August, and continues until frost. This shrub grows very thickly, and at times perfumes the air for half a mile around, very much like a field of buckwheat. I did not make a close examination, but should think that so fragrant a flower must contain honey.

At the base of the mountains there is a good supply of wild plums, mountain currants, etc. Honey was selling at $1 per pound, and a miserable quality of strained hive honey, at that. When I left for the States, I did so with the full intention of returning and starting an apiary in Colorado. But circumstances have as yet prevented. If my conclusions are correct, that it is a good locality for bees, or if it is good enough that they can gather sufficient supplies for their own living, it would certainly be a very desirable place to raise Italian queens, as there would be no trouble to keep them from hybridizing.

Rockford, Iowa, March, 1871. E. BENJAMIN.

[For the American Bee Journal.]

A Season in New Jersey, No. 3.

The last of May had come. Letters had been pouring in for over three months inquiring for queens, in response to my advertisements. I had expected by that time to begin to have young fertile queens; but, instead, my hives were only thinly stocked with workers, from the causes before mentioned, and no drones or drone brood of much account. Evidently I was in *a fix*, and must get out of it. The matter was made as satisfactory as possible with customers, and I began to look around for bees to stock my nucleus boxes. I called upon three individuals in town, who together had eight swarms. The first "hated to part with them," and when I offered him more than he considered them worth, he seemed suspicious that I was going to make something out of them, and "thought they would be worth as much to him as to me." Finally, to get rid of me, not wishing to say "no," as he ought to have done, he referred me to his wife, saying that she watched them, and ought to say something about it. So he kept his bees, but he did not "hate to part with them" so bad, but that he could and did brimstone one swarm in the fall.

Number two was ditto. The next man who had five swarms, was an intelligent farmer in good circumstances. His bees seemed to be prosperous, and I really thought I should be able to procure some of him. In conversation, I learned that he had never sold any, but had given away one or two swarms. Finally, on being asked why he would not sell any, he replied—"Well, I suppose you know that all Jerseymen are superstitious in regard to selling bees." I did not know anything about it, of course. In fact, *all* Jerseymen, included many with whom neither he nor I was acquainted; and I presumed some of them might not be bound by such a heathenish superstition. Money is no object, when such a belief stands in the way. Reason is of no avail against it, as it stands outside the pale of reason. Here was the key to my ill success, thus far, in purchasing bees. These unfortunate people would have been unfortunate with their bees, as in their business or family affairs, and who could reasonably blame them for refusing admittance to such a dreadful omen of fate. I could not willingly consent to destroy their peace (or *piece*, if you please) of mind for a paltry swarm of bees. On decoration day I came across another Jerseyman having four hives of bees, one a new swarm of two weeks old. As he professed a desire to sell, I repaired to his place the next day, and had the satisfaction of learning that I could buy some of his bees for about three times their value. Before submitting to such extortion, I concluded to try once more, and took the train for a neighboring town, where I found a man of to-day, instead of an antedeluvian, who had bees to sell.

I bought seven swarms of him, and took them home. His bees had robbed one another, until his swarms were considerably reduced in numbers, and what were left were mostly well stocked with bees and honey. They were in a protected situation, and flowers were plenty just then, clover was beginning to blossom, the bees of some colonies were working in boxes, and there seemed to be a good prospect for a prosperous season, I was to transfer the bees and return the hives.

For two or three weeks previously I had been overhauling my bees whenever it was convenient, as honey was plenty in the blossoms, and there were no robbers to cause trouble. Occasionally I had a few pieces of comb with a little honey in them, and I experienced some difficulty in having these pieces cleaned out. After getting my new treasures home, I commenced operations on them, expecting I could do most of my work out of doors, but "presto, change!" I found that "circumstances alter cases," and no sooner was a little honey exposed than all hands pitched in pell mell for it--hurrah boys!

Having seen such fellows before, I headed them off by transferring the combs in the cellar after drumming out the bees. Others may say what they choose, but I am convinced, and have been for years, that the black bees are far more troublesome by robbing than the Italians. They will follow it up all day, even if repulsed; while the Italians give it up at once, if repulsed at the beginning. But let the Italians get fairly started at robbing, and they will clean 'em out spry.

Part of those swarms were divided into nuclei, and part were put in hives stocked with empty combs, of which I had a large supply. There were some drones hatched, and the drone brood was given to the chickens. My drone catchers were adjusted as soon as possible to those hives containing black drones. This drone catcher is a small box which I designed for this purpose, and is arranged so that the drones and workers can go into it – the workers can go through or return, but the drones are caught sure if larger than workers. A part of the entrance is regulated so that only a worker can pass.

In my No. 2, March Bee Journal, page 203, second column, first line, read—"in eight or nine days the young native bees commenced working outside of the hive," &c.

I had observed, when I was first Italianizing my bees, several years ago, that the young Italians did not work outside of the hives until fourteen or sixteen days old. In this case the natives worked outside at half that age. I do not think it was because they were natives, but because there was such a mortality among the older bees that there were not enough remaining to supply the wants of the young brood. This would seem to indicate that the instincts of bees, as ordinarily developed, may be considerably varied in great emergencies.

All swarms, to work to the best advantage, should have a proper proportion of bees of all ages, and any system of artificial swarming which gives one swarm all the old bees, and another all the young ones, is wrong. J. L. HUBBARD.

Bricksburg, N. J, March 8, 1871.

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[For the American Bee Journal.]

The Past Honey Season in West Tennessee.

MR. EDITOR:—The season of 1870 was the worst ever known for bees, in West Tennessee, at least that is the opinion of the "oldest inhabitant," and we think he is about right. We do not think there was an average of one swarm to the hundred colonies of bees in this section of the State, and not an ounce of honey was secured by the old fogies in bee-keeping, who amount to about nine hundred and ninety-nine in a thousand.

A few days of warm south wind, with occasional gusts as hot as if just from the Gulf of Mexico, brought out the red maple in full bloom, about the 5th of February. Then, for about five days, the bees revelled in a perfect wilderness of sweets; but, suddenly, on the 10th of that month, we had a terrible snow storm, with sleet and rain from the north. It was sad to see such destruction. For nearly three weeks we had bad weather continually, and if a bee so much as ventured to the entrance of her hive, she was met by a sputter of rain drops, and after hurriedly wiping it out of her eyes the little fellow was only too glad to be able to rejoin the warm cluster. A few warm days about this time brought the plum trees into bloom, but they were no sooner out than another cold snap killed them all.

The weather thus alternated all through March. A few warm days would bring out the remaining blossoms that had escaped from the last cold spell, only to be killed by the succeeding one. April gave promise of better weather. The willows bloomed and yielded a considerable amount of honey. I had to empty some combs from my strongest stocks to give the queen room; and I had begun to expect to secure some apple blossom honey, when, to cap the climax of our apiarian woes, on the morning of Easter Sunday—the 17th of April, we looked out upon the fields and forests covered with snow. The blossoms of our great honey-producing tree, the poplar, were killed in the bud, together with the leaves—more than half grown on the trees. It took vegetation almost a month to recover from this shock, and when the blackberries bloomed they seemed to yield little or no honey, which was the case, also, with nearly all other flowers.

From gaining a bare subsistence, it seemed to be getting worse and worse with the bees, up to the 1st of June, when they, one and all, seemed to come to a solemn determination not to stir another inch, and resolved that they must either be fed or die. On opening a hive, the combs were found to be as dry as a chip. Not an egg, nor a particle of brood, nor a drop of honey was to be seen. I ought to have commenced feeding long before this, but had abandoned all expectation of increase, or of getting any honey until fall, and only wanted to interfere in time to save them. This I accomplished by feeding about two pounds of honey to the hive. After this matters began to improve, and continued to do so through the remainder of the season. By the middle of August I had all my colonies strong, with young Italian queens in all the hives, though these, unfortunately, were nearly all mated with black drones. About this time heartsease and two or three species of wild aster commenced to bloom, and yielded a good supply of very nice yellow honey. In a week or ten days after this, we examined our stocks, and found almost every comb in the body of the hives full of honey, with an inch or two along the top already capped over with the whitest of new wax. After having waited nearly the whole year, and seeing nothing but dry comb, it did us as much good to find our colonies in so good condition, as Henry Ward Beecher says, it does him to find a hen's nest full of eggs.

About the 20th of August the golden rod came into bloom, with a good many other fall flowers, and we had frequent occasion to use our melextractor. We got all our honey from the body of the hive. We use a two-story Langstroth. We failed to get any honey stored above, although we had a full set of empty combs there, with the honey-board left off. We got but little comb built, even in the body of the hive, the bees seeming to prefer even a vacuum to wasting honey, as scarce as it has been this season.

We commenced with fourteen colonies; bought four box hives, transferred them, doubled them, and closed the season with twenty-five strong colonies, with all worker comb in the brood department; besides two nucleus hives—one with four frames, and one with only one. All these have wintered safely out of doors, and are now doing well. S. W. COLE.

Andrew Chapel, Tenn., Feb. 1, 1871.

[For the American Bee Journal.]

The Past Season.

The year which has just passed into eternity, is one which will be long remembered by bee-keepers, especially when placed in contrast with the preceding one, and we should be grateful to the Great Giver that He so ordained it. Had 1870 been as disastrous as 1869, the probability is that apiculture in North America would have received a blow from which it would not have recovered for a long series of years.

As you do not appear to have a correspondent in this locality, I will presume to inflict upon your numerous readers some of "my experience" during the past year. In the first place I succeeded in wintering my five stocks out of doors in the "Thomas Hive" splendidly. They required no feeding, although many persons in this Niagara peninsula lost all their bees by starvation. The fact of mine being *Italians*, and having plenty of upward ventilation, will, I think, account for my success. Well, about the first of March, I commenced stimulating (Gallup fashion), and kept it up until the 25th of April, when I concluded to devote two stocks to the collection of honey, and the remaining three to the increase of colonies. I prevented the honey stocks from swarming at all. *How?* I gave plenty of room by removing the surplus honey every few days, and removed ALL queen cells. I increased the other three to eighteen by artificial swarming. From one of the honey stocks I *abstracted* (Webster) two hundred and twenty-two (222) pounds of honey, of which one hundred and forty-two (142) pounds are down to the credit of Maj. Von Hruschka (is that right?)* the remaining eighty (80) pounds being stored in large boxes. From the other stock one hundred and seventy-six (176) pounds, making a total of three hundred and ninety-eight (398) pounds from the two—all of which I sold at the uniform price of twenty-five cents per pound. I find the extracted honey sells much more readily than that in the comb. I put it up in glass quart jars, and label them as per Novice.

My artificial swarms are all strong, and well supplied with honey, even after taking from them as much as the family required from time to time.

In order to prevent in-and-in breeding, I purchased Italian queens from different parties. The one purchased from a western man was a sad affair to me. She cost me nearly nine dollars, including postage (I expect she will cost still more,) and was superseded (nice word) very shortly after being introduced. Not only queens but workers reared from her eggs proved her to be impure, either in herself or in her fertilization (another nice word)—the workers being one-banded, and their royal sisters very dark.

This communication is becoming lengthy, but I must encroach on your patience a short time longer (that's Irish) in order to give "honor to whom honor is due." I next ordered a queen from H. Alley, Esq., of Wenham, (Mass.) I received the queen from him early in June. She was a beauty, and her progeny are magnificent. I raised queens from her, and each was a duplicate of her mother. Being perfectly satisfied with Mr. Alley, I purchased five more in September, and am equally well pleased with them. The only fault to be found is they are somewhat slow in reaching purchasers. I would suggest to Mr. Alley to accept fewer orders and charge more. Finally (19thly) commend me to Alley's two dollar and a half queens every time.

O. FITZ WILKINS.

St. Catharines, Ontario, Jan. 12, 1871.

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* Perfectly so.—ED.

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[For the American Bee Journal.]

Natural, Prolific, Hardy Queens.

THIRD REPLY.

Self-contradictions of Mr. John M. Price.

The artificial queens *are* good. "My experience is to increase *from one to ten* . . . . Last year the ten swarms averaged thirty pounds each . . . . To make my artificial swarms, two old stocks furnished brood enough to make one new one every week since the first of June."—J. M. P., in Amer. Bee Journal, September, 1868.

"I commenced with ten stocks, one being queenless, in April. I had at one time fifty swarms; all had fertile queens . . . . *Every swarm raised its own queen*, with three or four exceptions . . . . I made new swarms as long as I had combs to furnish them with . . . . *I started to make ten from one* . . . . Here is the result: an increase from nine to twenty-eight, with abundant stores to winter, and an increase of one hundred and sixty combs, each one foot square, an increase of 16½ frames for each old stock . . . . I have not the least doubt that if I had let those hives that furnished the bees for my new swarms, *furnish the brood*, and let the others furnish the bees, the report would have been a great deal better . . . . It will be seen from the above, that *the result is satisfactory*."—J. M. P., in A. B. J., January, 1869.

The artificially raised queens *are not* good. "Having tried and failed to secure either prolific or long-lived queens by the means mentioned by the authors."—J. M. P., in A. B. J., July, 1870.

"My experience in raising queens for *the last five years*, is, that I can raise *twenty* natural queens that will be equal to their mothers, *to one* artificial queen from the same mother, that will live until she is *two months* old, and be one-fourth to one-half as prolific as her mother."—J. M. P., in A. B. J., January, 1871.

He has experimented with his method several years. See above. "My experince in raising queens for the last five years," &c . . . . "Having devised or invented, *proved and tested*, a means of getting natural queens started," &c.—A. B. J., July, 1870.

On the 13th of March, 1870, Mr. J. M. Price wanted to know a good way to get queen cells started. Up to June, 1870, he had not yet tested his method. "Having studied a plan and means of securing queen cells by a more natural way than those recommended usually, *I am determined to put it in practice* . . . . If I don't succeed in the way I propose, I thought I would exchange combs," &c. "If you have a way of providing queen cells, please give it through the Journal. I mean a way of getting the bees to start them in sufficient numbers." (March 13, 1870, Illustrated B. J. for June.)

"I gave them queen cells and they hatched out a week ago . . . . You see my mode is not theory but facts" . . . . (June 20, A. B. J. for November, 1870.)

The artificial queens are cripples, drone-laying, &c.

"I am trying the experiment of raising forced queens from the brood of a pure Italian queen received last spring, but so far I have only succeeded in raising cripples, drone-laying and egg non-hatching queens."—A. B. J., November, 1870.

The naturally raised queens can also be cripples, drone-laying, &c.

"The 25th of June, the hive having twenty-three or twenty-five queen cells, the Italian queen led out a swarm . . . . Of these queen cells (raised under the swarming impulse) I secured seven queens. One was without wings, one became drone-laying, one laid eggs which would not hatch."—A. B. J., January, 1870.

The queen received from Ch. Dadant was not good, because she was artificially raised. "I have only one artificial queen laying: my pure, *prolific* Italian. I will guarantee any of my black, young or old, or other natural queens, to fill five frames with brood quicker than she can fill one."—A. B. J., November, 1870.

The queen received from Ch. Dadant was not good, because she was chilled on her journey. "I think the chilling she received on her transit from Hamilton, Illinois, to Winthrop, had a good deal to do with her unprolificness."—A. B. J., January, 1871.

After copying the above quotations, I could leave the reader to draw the conclusion, but I desire to add a few remarks.

Mr. J. M. Price says that he has failed to raise good queens. True, he has never raised queens up to July, 1870, though he has made artificial swarms in the worst way possible; that is, spoiling his colonies by dividing them to the utmost (ten from one.) No wonder if he got so many worthless queens. No good queen breeder ever used so defective a method. He finds the queens started in good colonies better than those raised in his needy swarms, and he mistakes in guessing that his good success came from the swarming impulse, when, on the contrary, it came from the *milieu* in which the queens were started.

He proposes to give his method of artificial swarming; but we have already read his method three times in the A. B. J. for 1868, 1869 and 1870. Is it a new edition of the same, or a new method? If the latter, we may fear to get a mode not sufficiently experimented upon, for Mr. J. M. Price is very fast in drawing his conclusions. For instance, he received his first Italian queen in June, 1870, and three or four months after, he gives his opinion as to the prolificness of the Italians, although his queen had been impaired on her way to Winthrop.

That queen was raised in March-April, in a strong stock found queenless. This colony, after having received a comb of brood, constructed six queen cells. All of these, but one, were introduced in black colonies, and her sisters proved to be as good as any.

On receiving the letter of Mr. John M. Price, asking for a pure, tested queen, I took special care to choose a good one, in order to satisfy him, and to prove to him that his ideas on artificial queens were mere conjectures. After opening five or six hives, the queen referred to was chosen, because she seemed the most prolific, having in forty days filled her hive with bees and brood. The queens raised from her brood, after her departure (her daughters,) proved to be hardy and prolific also.

Of course, I was greatly puzzled, when I received two letters from Mr. Price, saying that the queen sent was very unprolific, and attributing her unprolificness to artificial raising. It is only in the A. B. Journal for January, that he has avowed the probable cause.

We Frenchmen are often charged with the defect of being very sanguine. I guess friend Price was as much, if not more sanguine than any true Frenchman, in drawing his conclusions. Moreover, we see that he is not very consistent, although he wrote somewhere: "Consistency, thou art a jewel." (Illustrated B. J., September, 1870.)

Ch. Dadant.

Hamilton, Ill., Jan., 1871.

[For the American Bee Journal.]

Wintering Bees.

My communication of December 9th last, left my bees in their summer stands. The next morning found the temperature at 18° F., with indications that winter was upon us. We therefore gave our cellar full ventilation, lowered the temperature therein to 34°, and immediately proceeded to remove our bees thither. We closed the entrance, made all dark, and removed the caps from the hives, piling them (the caps) in one corner out of the way, leaving the hives open, with the very material exception that there was wire cloth thrown over the tops of the frames, and a newspaper spread lightly over the wire cloth on each hive. Friend Gallup says "great is humbug." So say we, but with the next breath we exclaim "very convenient is wire cloth."

We succeeded in keeping all things to our satisfaction for a long time, but when the coldest snaps were upon us, the temperature of the cellar would run down to 18° or 20°. The only consolation we had was, that even at these figures, it was much milder than on the outside.

The bees remained as quiet as could have been expected till February 16th, when hive No. 3 became noisy. We gave them more ventilation by removing the paper from the top. The next day No. 8 was in the same fix, and was treated in a similar manner. We had grave doubts as to the propriety of giving them so much cool air, but what else could have been done to keep them from worrying themselves to death.

Each day added to the number of malcontents, and the final result began to look quite problematical, when the morning of the 25th of February broke upon us with a south wind, and a thaw in progress. The necessary preparations were made, and as the mercury approached 60°, we removed our bees and placed them on their summer stands, with the entrances to the hives open. Many bees took advantage of their liberty, and of course a few were lost.

On a partial examination I found one hive contained many dead bees; another contained a few; the remaining fourteen *appeared* all right. The next day was unsuitable, but the second day after was mild and pleasant, and the little pets had a glorious time—music, music, all around!

I am not able to tell what the knowing ones will think of all this; but, for myself, I will say that as evening closed upon the scene, and the busy little fellows were hushed in rest, I felt that another crisis had been safely passed, and my apiary was worth many dollars more from the operation.

Soon after this we returned the hives to their old quarters, where they remained quiet, while the winter king made a vigorous effort to retain his icy sceptre and his snowy crown.

D. P. Lane.

Koshkonong, Wis., Feb. 27, 1871.

[For the American Bee Journal.]

Patent Hive Pedlers.

If there is any one thing more than another, in which the inexperienced are humbugged, it is in patent bee hives; and the humbug pedlers of these always give the practical bee-keeper and his neighborhood a wide berth. They usually choose some neighborhood where the old gum is almost the only hive in use. Consequently, the bee-keepers there are ignorant of what they do want; and usually, the operator is either himself ignorant of bee-keeping, or is a knave of the worst stripe (though we have seen some uniting both qualities). He has a model hive, finished in the finest style, with brass handles, brass hinges, and trimmings to match; and perhaps it is veneered and varnished in addition. The model is usually, in fact, a splendid ornament to look at; and (without any bees in it) works like a charm. "And then those movable frames," says the hive pedler; "you see, every bee-keeper wants them; no practical bee-keeper does without them. Why, man alive, you can treble the amount of profit at once, over and above the old gum. And then, see how easily you can take out honey at any time! All you have to do is to take out one of those frames of honey, and place it on the table for company, set an empty frame in its place, and the bees will immediately re-fill it. And in one of those hives, the bees will make honey, even in winter. Aye, and if you get the right kind of hive, the comb will even grow mushroom fashion, which you can readily see is a great advantage. Old fogy bee-keepers don't believe in this; but, then, they are much behind the times. Our hive demonstrates this to a dot."

"Well, Mr. P.," says the gaping greenhorn, "you do put forth some new ideas. I think I must have one of them patent skeps or gums. They are such nice things. How much do you ax for one?"

Pedler.—"Well, sir, you see we have been to a great expense in getting our patent, besides the loss of time in inventing the hive; and it is going to cost us considerable to introduce it to the public. But seeing it is you, and we want to get the hive introduced in your neighborhood, and we are aware that you are quite a prominent bee-keeper in these parts——" [Soft soap.]

"Oh, yes; we can hive a swarm of bees equal to any man you ever saw. Do you see that tree there? Well, we have been up to the top of it, and brought down a limb with the bees settled on it, and put them in the hive, and didn't get stung a bit. What do you think of that?"

"Well, sir; you are a bee-keeper, and no mistake. [Soft soap again.] But, as we said before, you are a prominent bee-keeper, and we will sell you the right, and a pattern hive, and transfer a swarm of bees into it, for fifteen dollars."

"Whew! I reckon, stranger; you're pretty steep, ain't you? What was that you said about putting bees into it? My stars, the pesky critters will sting you to death, I reckon."

"Oh no sir; we will fix them so they won't sting, and give you the secret for nothing, seeing it's you. Then you can transfer all your bees into those splendid hives, as soon as you can get enough made—combs, bees, and all; although the comb is not worth much, seeing it will grow in my hive."

"Well, stranger, I think I will take one of the patent gums; but don't let on to my old woman, 'cause she'd be as mad as a March hare, if she finds out how much the pesky thing cost."

The deed is made out, and all things are satisfactory. The swarm of bees is installed in the new hive, (in a bungling manner, as usual,) and Mr. Humbug departs chuckling, ready to cheat the next greenhorn he comes across, out of twelve or fifteen dollars.

In a few days after, along comes the owner of Langstroth territory, or his agent. He calls on our friend, the greenhorn, and the conversation soon turns on the bee or hive question.

"Look here, stranger," says greenhorn, "I've got the nicest gum here you ever did see. I bought it a few days ago from Mr. H. Maybe you've come across him somewhere in your travels. Mighty nice man, I reckon."

"Why, that, sir, is a Langstroth hive, with useless additions and clap-trap fixings."

"A what, did you say?"

"A Langstroth hive! Did he give you a deed to the right, &c.? Let me see it." (The deed is brought out.) "Here, you see, this deed gives you the right to use Mr. H.'s improvement to the movable comb hive (and nine out of ten of those so-called improvements are retrograde improvements), but he has not deeded to you the right to the movable frames, at all. Now, sir, you must pay me ten dollars for the right, or I shall prosecute you for infringing on Mr. Langstroth's rights."

"Thunder! You don't say so, do you? Why didn't the pesky fellow tell me of this, and then I could have bought of you in the first place."

Now, Mr. Greenhorn, there is no use in mincing the matter. In the first place, be sure to ascertain whether you are purchasing an improvement, or the genuine article itself. In the second place, ascertain whether the so-called improvement is worth anything to you, or not. The patent hive man never takes the trouble to inform you that Mr. Langstroth was the original inventor and patentee of the movable comb hive; but usually impresses the idea that the hive he offers, movable combs and all, was invented by himself. Take my advice. It costs you nothing. Remember, the form of the hive is not patented or patentable. All manner of forms of hive were used before the movable comb hives were thought of. It is my candid opinion, that but very few of the hundreds of hives patented are any improvement on the Langstroth movable combs; and ninety-nine out of every hundred are entirely worthless, when compared with the Langstroth hive. We will take one for example. It has a slanting bottom board, movable combs, &c. But the patented features claimed are slides to cut off the communication to the boxes; and the hive could be separated in the middle into two half hives, and an empty half attached to each full half. This, you will readily see, was doing away with the movable combs to a certain extent; and you will as readily see that the patented features are entirely worthless, while the movable comb feature, which is what sells the hive, belongs to Mr. Langstroth.

ELISHA GALLUP.

Orchard, Iowa.

[For the American Bee Journal.]

Pain d'Epices Francois.

(*French Gingerbread.*)

In order to comply with the desire of my friend Duffeler, I give hereinafter a recipe for the French pain d'epices.

Dissolve half an ounce of soda in half a pint of milk. On the following day mix up that soda with four pounds of flour, and add enough honey to make a dough a little mellow. Add to this paste one dram of anise, as much coriander, and four grains cloves, all well powdered. Knead that dough the same as for bread, with great care, so as to mix up all the ingredients; let it stand two hours; then bake it in a slow oven, as for biscuits. From ten to twelve minutes are sufficient, if the dough is thin; it requires somewhat more time if it is thick. Before putting it in oven, you can ornament it with almonds, and some slices of sugar-pickled lemons embedded in the dough, or some *non-pareil'e* boiled with beaten eggs.

Nearly all the honey of Brittany (buckwheat honey) is used to make such pain d'epices. Sometimes molasses or sugar is substituted for honey. Rye flour is generally preferred; the pain d'epices is then more brown, but more savory, than when wheat flour is used.

Croquets.

The confectioners of Dijon and Rheims, whose agents travel all over France, to sell their products at the fairs, make another sort of pain d'epices, named *croquets.*

It is the same dough kneaded with half honey and half sugar, and wheat flour.

That dough is spread or rolled only one-fourth of an inch thick, and is cut with a cutting punch nearly resembling a glove (☞), with only two fingers. It is then put in the oven to be *dried*, rather than to be baked. The honey being very apt to absorb moisture from the atmosphere, the croquets, in order to deserve their name (*croquer*, in French, means to *craunch*), are dried anew before eating.

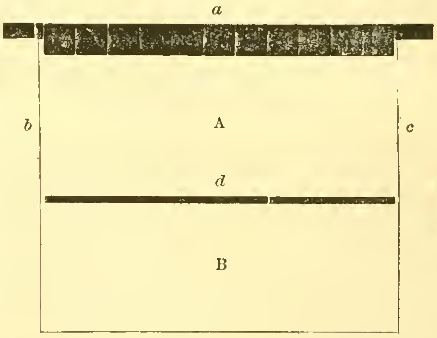
In France, every country family, in easy circumstances, buys at the fairs a supply of these delicacies sufficient for several weeks.

CH. DADANT.

Hamilton, Ills.

[For the American Bee Journal.]

A New Bee Feeder.



MR. EDITOR:—I wish to describe a bee feeder which appears to me to be better fitted than any I have yet seen for use, when bees are in winter quarters.

In one of your comb frames nail a half inch strip lengthwise between the side pieces, so as to divide the frame into two parts, an upper *A* and a lower *B*. Then take a piece of coarse muslin or cotton cloth, and tuck it, at its edges, on one side of the upper division of the frame, drawing it quite tight, and holding it in place by thin strips tacked over the edges at the sides and bottom, *a*, *b*, *c*, *d*. Now, reversing the frame, attach another piece of cotton cloth, in like manner to the opposite side of the upper division. Fit a piece of empty comb securely in the lower division *B* of the frame, and bore a hole through the top bar, to receive a funnel, through which the feed can be passed into the feeder, as required. Now place this frame feeder centrally in your hive, or where the bees are clustered, and they then have their feed just where they want it, as though it had been stored in the combs. A hole should be bored in the honey-board, to correspond with that in the top bar of the frame, in which the funnel may be inserted, and which may be closed with a cork, when not in use.

In the Northern States, bees ill supplied with stores, should be fully fed in the latter part of September or the beginning of October; but this feeder answers admirably when cold weather comes on, before they have obtained sufficient supplies. Last fall I put a colony into a hive with only empty combs, and by using this feeder they are now in good condition, and *do not remove the honey faster than they consume it*, as they know that they can get it as readily as though they had themselves stored it in the combs, above the cluster. When you get through with feeding, pour warm water in the feeder, rinse it well, and let it dry.

Mr. Editor, I have now fully described what I know from experience is an excellent feeder, and thus make it public—desiring at the same time to receive due credit for my invention.

J. F. Hershey.

Mountjoy, Pa., Jan. 12, 1871.

* * *

[For the American Bee Journal.]

How I Lost a Number of Queens.

About the beginning of the month of June last, I had a large number of nice prolific Italian queens, and only a small number of orders to fill. I therefore concluded to use them in making artificial swarms. In my southern apiary I had a number of hybrid colonies in very good condition. These stocks I concluded to use in getting up strong artificial stocks. My mode of doing this was as follows: I took from movable comb hives all the combs but two, without any bees, put them into an empty hive, and placed the latter on the stand of one of those box hives. All the old worker bees out in the field, and a large number that left the hives afterwards, went into this hive, and a good colony would doubtless have been created if I could have induced the bees to accept one of those fertile queens in a short time. In the evening I introduced caged queens into nineteen colonies so formed, liberating them at evening on the third day, with every appearance of acceptance. To my utter surprise, however, on examination a week later, I found that eleven out of the nineteen queens were either killed or had swarmed out with a small body of adherents. Two of the reremaining eight were still held prisoners by the workers. After destroying all the sealed queen cells, I liberated those queens and they were accepted.

I report this failure to the Journal to make others cautious in liberating queens in artificial colonies so formed. In former days, I proceeded as follows, when forming artificial colonies with surplus fertile queens. I divided a strong stock, by taking two-thirds of all the brood combs, with the adhering bees—putting them into an empty hive. I then removed the so-created colony to a new location and introduced a caged fertile queen in the evening, and liberated her on the evening of the third day. I scarcely ever failed in having my queens accepted, and always succeeded in creating a good colony.

A. Grimm.

Jefferson, Wis., Jan., 1871.

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[For the American Bee Journal.]

Note from a Lady Beginner.

Dear Bee Journal:—Please don't think us presuming upon our short acquaintance—only six months—for truly we greet your coming with ever increasing interest, inspired the while with increasing thirst for knowledge in our chosen *profession*, we hope to be "admitted" some day.

We do wish though, that Mr. "Novice" would please change his name, or rather take one to which he has a better claim, say, "Blessed Experience," and let *us* have his; only we should want a prefix, like "very anxious," or something else that would express half the desire we feel to know just the right time to do the right thing for our bees.

With only four stands of bees, and less than one year's experience, we are able to promise that with *half* the success that others report, we will become just as much of an enthusiast. February 22 we found the bees carrying pollen, but could not tell whether from the field or some old comb stored in an outhouse. But, to-day, March 5, they are bringing such bright yellow loads, and come in such numbers, that we must open wide their doors.

The Red Elm is in bloom, and the bees make music to our ears, among the branches, bringing the hope that the coming season here may not be like unto the last in the lack of honey.

Sue W.

Pacific, Mo.

* * *

[For the American Bee Journal.]

Report from Dayton, Ohio.

I put up last summer about 500 pounds extracted honey in glass jars, heating and skimming it first. None of it had candied in the least, though upon noticing the fact that much of that in other hands *had* candied, I exposed some *out doors to* all the cold we have had since February 1st, and it has not changed, but is now bright and limpid as when first put up.

Last season was hardly an average one here, in yield of honey. We had good weather to near the middle of July, and the bees worked steadily, filling up empty combs, but made very little new, and did not swarm. Our fall pasturage, of golden rod principally, and a few other honey-yielding flowers, never amounts to anything more than, at the best, to keep up the strength of the hives. Comparatively no buckwheat is planted in this vicinity, so that our honey is obtained from fruit trees and raspberry blossoms, white and sometimes red clover, locust, and lime or basswood trees.

The melextractor will doubtless largely increase the yield of honey, and in seasons like our last summer be very advantageous; but bee-keepers living in the vicinity of cities and a market, can sell honey in new white comb, in one or two pound boxes, more readily at fifty cents per pound, than the extracted honey in jars of the same capacity, at twenty-five cents per pound.

The surplus honey we get here up to August is far superior to the fall made honey of North Western Indiana, (of which I have seen a good deal,) and, I infer, to that of any part of the Western Prairie country. J. H. PIERCE.

Dayton, Ohio, March 9, 1871.

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[For the American Bee Journal.]

Facts and Fancies.

DEAR JOURNAL:—I have read you with interest and profit ever since the second year of your existence, and have only once occupied your columns. In the meantime, you have grown so plethoric, and provender has become so abundant, that you can afford to be a little choice as to what you take into your capacious maw. Right glad am I of it; because you have swallowed without a grimace many an undigested and undigestible morsel. I will add my measure to the pile from which you feed.

FACTS.—Six years ago I got Langstroth's book, and studied it until I had it by heart. I then bought a hive of bees and set to work. I was successful, and soon became the wisest bee-man living, always excepting our author. I could have discoursed for days, filled columns of the Journal, or written a book on bee-keeping. Who could not, after reading Langstroth? Afterwards I got Quinby's Mysteries and King's Bee-keeper, if that is the right name. Quinby's book was evidently original, and it would have been good if we had had no better. It demonstrated this, that there never was a hive to equal the common box of the Quinby pattern. It was in midnight darkness about movable comb hives and the modern improvements in bee-keeping. As to all the other books I have seen, I would not like to say that every important idea was not taken from Langstroth. Facts may have a moral, as well as fiction. Let us see.

MORAL 1ST.—Let not those who are learning the A, B, C of bee-keeping be too impatient to rush into print and spread themselves before the world. If they go on towards perfection, as I hope they will, they will not feel half so wise in a few years. Novice says he is still Novice, and I fancy he is a good deal more humble yet wiser man, than when he first began. Bee-keeping, like religion, sobers with age. *Query*.—If Langstroth was credited with all the information received, directly or indirectly, from him, and which is spread out in bee books and journals, how much that is valuable would be left to be distributed among others?

MORAL 2D.—"Give tribute to whom tribute, honor to whom honor is due." If you think you are not indebted to Langstroth, give up every form of movable comb hives, and go back to the old box.

FACTS.—About a month before the swarming season, I noticed that one of my queens had gone to the opposite side of the hive from the brood, and filled all the drone comb there was with eggs. To do this she had to pass empty worker combs. There were no eggs deposited in that part of the hive except in the drone comb, which was filled on both sides.

INFERENCE 1ST.—The queen can distinguish between worker and drone comb. 2D. When the queen lays drone eggs, she does it on purpose. The abdomen compression theory is not correct.*

FACTS.—Last summer I found two young Italian queens in one hive. Took one out, and left one,—the most beautiful I ever saw. In a few weeks I found about an equal number of most beautiful Italian and common black workers. Mortified that my fair young queen should have anything to do with contraband drones, I killed her; and then I afterwards learned that there was a black queen in the hive, which must have come from some of my neighbors a mile or more distant. Alas! I had in a rash moment killed the finest Italian queen I had ever raised, and on a groundless suspicion.

MORAL.—Don't take things for granted! Bee-keepers, especially the kind that get up new hives, draw some sash conclusions. Always "be sure you are right, then go ahead!"

FACTS.—Having received the right to make and use the Jasper Hazen hive, I made an experiment; but did not make his hive. I took all of the combs from one of my strongest colonies in May, and added two combs from another hive. I suspended six of these combs side by side, and right over them I suspended the other six. This made a tall, narrow hive. I built upon both sides and over the top with surplus honey boxes. I turned in all the bees, and kept them from swarming. I wanted to get all the boxes, which would hold 175 lbs., filled with honey. The plan was for the bees to commence in the side boxes and deposit the honey just beside the brood. But some bees have no sense. These persisted in climbing away through two sets of combs and putting the honey in the boxes over the top of the hive, where it could be of no earthly use to them in the winter. After these boxes were filled and the honey sealed, they were compelled to go into the side boxes; but they seemed to be in the sulks about it, and did not half work until I lifted some empty boxes on the top of the hive.

MORAL 1ST.—Don't take everything as gospel that is said about side boxes.

MORAL 2D.—Before you get too many of these hives, find out whether you have the side-box breed of bees. I haven't. JOHN.

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* The "abdomen compression" theory may not be correct, yet it strikes us that the fact that the queen, passing over worker combs, laid *drone eggs* in *drone cells*, does not prove its fallacy. It shows only what has long been known, that she can distinguish the different kinds of cells.—Ed.

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At a California fair recently, several bottles of strained honey were put on exhibition, when a chap put a bottle of castor oil with the rest. The opinion of all who tried it was that the bee that laid it was a fraud.

THE AMERICAN BEE JOURNAL

Washington, April, 1871.

☞ We consider the Bee-feeder, invented by Mr. Hershey, of Mountjoy, (Pa.,) and described by him, in the present number of the Journal, as the best device for the purpose intended that has ever come under our notice. The Germans use an ordinary feeding trough, with float, placed within the frame, and inserted in the cluster of bees; but the substitution for it, of what is virtually a feeding sac, is certainly a very valuable improvement and decided advance.

The apparatus, to which we alluded in our February number, for safely introducing queens, without seeking for and removing the old one to be superseded, or a fertile worker to be supplanted, is called the Queen's Castle, and consists of a plain case adapted, in its dimensions, to receive a full sized frame, such as the bee-keeper ordinarily uses in his hives. The two sides of this case are formed of wire cloth, and the ends and bottoms are pieces of tin two inches broad, so as to allow a space half an inch wide between the wire cloth and each side of the comb or frame, which is to be suspended in the case. The case, too, should be a quarter of an inch deeper than the frame, so as to allow a free passage for the bees below the latter, and just long enough to permit the frame to be inserted in it easily. The tin end pieces should also project about half an inch at top, beyond the wire cloth, and be there bent outward, at right angles, to rest on the rebates of the hive, to support the case and its contents. An inch hole should be punched centrally through the tin bottom, and provided with a sliding cover for occasional use.

To introduce a queen in a colony, a frame containing worker comb with some sealed honey is to be selected, the queen and her companions placed thereon, the frame suspended in the case or queen castle, and the top opening closed with a strip of thin board, secured so as to confine the queen and bees. The case so arranged is then suspended between two brood combs in the hive destined to receive the queen, and allowed to remain there two or three days undisturbed. It is then withdrawn, the frame and comb, with the queen and her companions, lifted out and at once replaced in the hive; all the frames are then again properly adjusted and the hive closed. This completes the operation, and it is alleged, that queens so introduced are invariably accepted—the old queen of the colony, or any usurping fertile worker present being meanwhile discarded, deposed, and ejected.

The inventor of this apparatus and process, the Rev. Mr. Baist, of Ulfa, in the Dutchy of Hesse, says, that of a lot of twenty queens thus introduced at one time, all were accepted, though several of the colonies contained fertile workers, and from six the old queens had not been removed. Nor has he known a single failure since the process was adopted, now more than two years ago. The queens usually continue laying eggs as if nothing had occurred to alarm or discourage them.

This process could easily be tested with queens of no special value, and we shall be pleased to hear the results of any experiments that may be made.

We call attention to the important suggestions made by Mr. Langstroth, in an article on the subject of bee poison, in this number of the Journal. He also related to us, lately, an instance in which a visitor to his apiary, who tasted freely of the just emptied honey (though strongly cautioned against it), and before he reached his home was seized with such distressing symptoms that his life was for some time considered in danger. Mr. Langstroth never offers the "Hruschkaed" honey for sale till he has, by sufficient heat, expelled all the bee poison. He uses for this purpose the tin receiver in the rear of the Stewart cooking stove, in which he keeps, on the wire racks, two large, deep pans with proper faucets. These will properly heat (and when needed thicken) a large quantity of honey, while the ordinary cooking for the family is being done. At other times the bottom of the large oven and the top of the stove can be covered with additional pans. *The perfect control of the draft*, which is given by this admirable stove, (the inventor of which has truly been a benefactor to his race,) enables the bee-keepers to heat a large quantity of honey with the smallest expense of wood or coal.

Those of our readers who can refer to what is said in the Journal for February and March, 1870, respecting the Clark patent on the triangular comb guide, need not be told that the said patent has no validity whatever, and that any attempt by any one to sell rights under it, or to collect damages for infringements on it, is a *clear fraud on the public*. To those who have not access to those numbers of the Journal, we would say, that the records of the Patent Office show that Clark's application for a patent was not made until more than *two years after* Mr. Langstroth had made, used, and extensively sold said guides in his hive, and under those circumstances no valid patent could be obtained.

We publish in this number of the Journal a series of papers relating to patented (?) methods of feeding hogs; and do so for the purpose of conveying to inventors and others a clear idea of the formal manner of transacting business in the Patent Office, and also to enlighten the public to some extent, in regard to the worthlessness of many patents actually issued by the office.

The mere issuance of a patent is no evidence of practical value, nor does it establish the fact that the owner thereof has a right to use all the features that are described and illustrated therein. It is often the case that all the valuable features in a patent are fully covered by previous patents, so that the owner of the subsequent patent has no right whatever to use the invention which he illustrates without license from the owners of the patents which antedate his. It is a difficult matter to impress these facts upon the public by simple statements, and consequently cases are constantly occurring where innocent parties have purchased patents supposed to cover valuable ground, which are not worth the paper they are printed on. To undertake to expose, by sober argument, the wily trickery by which artful schemers contrive to swindle the unsuspecting, would possibly be a fruitless and thankless labor; yet, happily, sometimes by fun and broad satire a truth is easily and firmly impressed upon the mind. If any of our readers are saved from Imposition by the genial humor of the papers to which we refer, or should chance to agglomerate adipose matter by excessive laughter in the perusal, the object for which they were prepared by their author, will be fully attained.

Bee-keepers' Association.—At a meeting of bee-keepers, held at Elmira, N. Y., January 11th and 12th, a Bee-keepers' Association for the southern tier of counties in New York and northern tier of counties in Pennsylvania was formed, and the following officers were elected:

President—I. V. Mapes, Elmira.

Secretary—Rowell R. Moss, Elmira.

Treasurer—Levi Coke, Elmira.

Board of Managers—Clark Rogers, Alfred Centre, Allegany Co., N. Y.; J. S. Chase, Whitesville, Allegany Co., N. Y.; J. H. Hadsell, Breeseport, N. Y.; G. W. Mead, Ridgebury, Bradford Co., Pa.; L. B. Crandall, Havana, N. Y.

Another meeting of the association will be held in Elmira, N. Y., on the 19th and 20th of April.

THE ART AND MYSTERY
Of Patenting New and Useful Inventions,
EXEMPLIFIED AND ILLUSTRATED

By H. W. Beadle,

Solicitor of Patents, Washington, D. C.

Patent of John Jones.

JOHN JONES.

Letters-Patent, No. 16, 789, 391, *February* 31*st*, 1858.

Improved Method of Feeding Hogs.

To all whom it may concern:

Be it known that I, John Jones, of Jonestown, in the County of Jones, and State of Indiana, have invented a new and improved Method of Feeding Hogs, and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention consists broadly in the employment of the force of gravitation in combination with a hog's esophagus, or its equivalent, for the purpose of retarding the movement of food from the face opening to the muscular membranous reservoir, by which means all nutritious qualities are thoroughly extracted.

Hogs, like other mammals, ordinarily eat too rapidly, and thus fail to derive that benefit from their food, that they would receive, if time should be taken to properly masticate and digest it.

By means of my invention, however, all opportunity for rapid eating is taken away, as every particle of matter taken into the face opening must be swallowed in opposition to the force of gravitation. The method of carrying my invention into effect is substantially as follows:

The relative position of the hog's body is changed during the time of feeding by any suitable means. I preferably sink the trough below the surface of the ground in such a manner that the hog is obliged to depress his anterior portion before he can partake of his food.

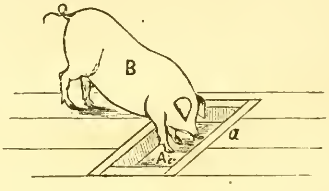


Fig. 7.—*John Jones, Feb.* 31, 1858.

B represents a hog of any proper construction, the internal organs being preferably arranged as usual. A represents the trough, the bottom of which is depressed beneath the level of the floor *a* as shown.

The operation will be easily understood, by an inspection of the drawing.

In practice, it makes no difference, whether the anterior portion of the body is depressed, or the posterior elevated. The result is similar in either case.

I do not limit myself to anything in particular, but desire to claim everything in general.

Having thus fully described my invention, what I claim as new, and desire to secure by letters patent is,

1st. The force of gravitation in combination with a hog's esophagus, or its equivalent, as described.

2d. A hog in combination with the floor of the pen, when arranged relatively at any suitable incline therefrom, substantially as described.

3d. A hog anteriorly depressed, or posteriorly elevated, or both, or its equivalent, substantially as described.

Inventor,
John Jones.

Witnesses:
Andrew Aspur,
Barnard Bakely.

APPLICATION OF JOHN SMITH.

PETITION.

To the Commissioner of Patents:

The petition of John Smith, of Smithtown, in the county of Winnebago, and State of Illinois,

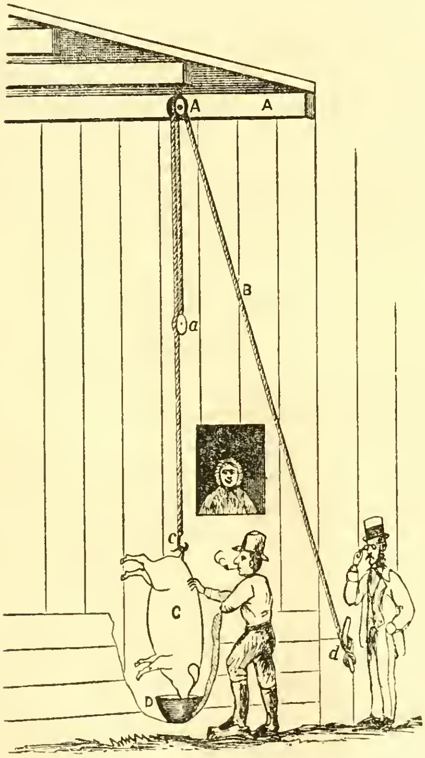
Respectfully represents, That your petitioner has invented a new and improved Method of Feed-

ING HOGS, which he verily believes has not been known or used prior to the invention thereof by your petitioner. He therefore prays that Letters Patent of the United States may be granted to him therefor, vesting in him and his legal representatives the exclusive right to the same, upon the terms and conditions expressed in the Act of Congress in that case made and provided; he having paid Fifteen Dollars into the Treasury, and otherwise complied with the requirements of said Act. And he hereby authorizes Heugh W. Beadle, of Washington, D. C., or his associate, to act as his attorney in presenting the application, and in making all such alterations and amendments as may be required. JOHN SMITH.

SPECIFICATION.

To all whom it may concern: Be it known, that I, John Smith, of Smithtown, in the county of Winnebago, and State of Illinois, have invented a new and improved METHOD OF FEEDING HOGS, and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

This invention relates to an improved method of feeding swine and other pachydermata, and consists mainly in so suspending the animal to be fed, that the sustenance which it takes is compelled to ascend in an upward direction, by which means the latter becomes thoroughly digested, and thus imparts all its nutritious qualities to the animal, as will be fully described hereinafter. In the drawings—



JOHN SMITH'S METHOD OF FEEDING PIGS.—*Fig.* 1.

Fig. 1 represent a simple arrangement of pulleys and rope attached to a dwelling, for the purpose of elevating swine for feeding according to my improved method—a portion of the side of the pig apartment being broken away, in order to give a full view of the suspended animal.

Fig. 2 represents a modification of the above arrangement.

Figs. 3 and 4 represent views of parts detached.

Fig. 5 represents an animal fattened in the ordinary manner.

Fig. 6 represents one fattened by my improved method of feeding.

To enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe fully my improved method, with the appliances for carrying it into effect.

It is a well-known fact that indigestion, with all its attendant horrors, is almost invariably produced by a habit of bolting the food while eating, without masticating it. It is believed that this dreadful disease is not confined to bipeds alone, but that quadrupeds, especially those of the pachydermata order, are also more or less affected in this way from a similar cause. Were the inconveniences and annoyances to which the animal is subjected when thus afflicted the only result produced, the want of a remedy would never have been felt, but when it is known that such a condition is most unfavorable, if not absolutely fatal, to the agglomeration of adipose matter, the value of this invention will be at once perceived.

The design of this invention then is to cause the food taken by the animal to pass slowly through the intestines, in order that its nutritious qualities may all be thoroughly extracted during its passage. Swine usually take their nourishment with their fore limbs placed in the food receptacle. In this position it will be at once perceived that the body is inclined in a downward direction from front to rear, and the nourishment taken naturally flows rapidly, by the force of gravitation, into the stomach, without giving out nourishment upon the way. Further the fore feet of the animal become immersed in the food, which adheres thereto, and is lost, no nutriment being absorbed through the feet.

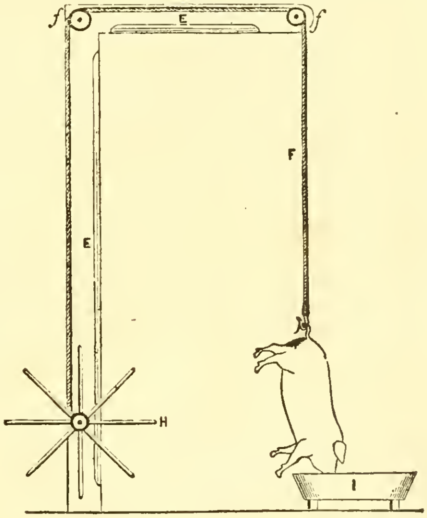


Fig 2.

In fig. 1, A represents a pulley securely attached to beam A. B represents a rope of suitable strength, which passing over fixed pulley A and through loose pulley *a*, is securely attached at one end to the hog's tail *c*, (which latter is rigidly secured to the body C,) and at the other, when the animal is suspended, to the cleat *d*. If the animal is of the curly-tailed breed, it will be sufficient simply to hook into a curl of the tail, as is shown in fig. 4, but if straight-tailed, it will be necessary to effect a union by tieing, as shown in figs. 1 and 3. D represents a patent trough. In the modified arrangement, as shown in fig 2. E represents a standard provided with the arm E'. F represents a rope passing over pulleys *f*, *f*, to windlass H. I represents a trough of ordinary construction. It will be observed that in fig. 1 the animal is shown in combination with a patented trough, and in fig. 2 with a trough of the ordinary construction. The result in either combination is equally good. It should be here stated, that by my improved process and devices, indigestion in hogs is prevented in another way. This disease arises mainly from over-eating, but a hog suspended as shown, will find, as the weight of the food is added to his own weight and all suspended from the tail, that his position will become somewhat painful, and he will be disposed to cease eating before he has quite surfeited himself, which is in exact accordance with strict hygienic precepts. Moreover, it is more cleanly, as no hog can "slobber" in this position.

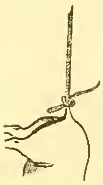


Fig. 3.

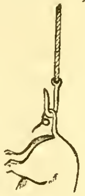


Fig. 4.

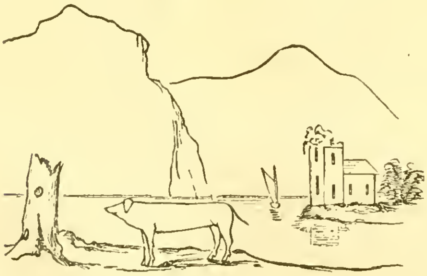
The beneficial results produced by this improved method are shown in Figs. 5 and 6; the former represents an animal fattened in the ordinary manner, and the latter, one fattened by my improved method. A great difference will readily be observed, I generally prefer to use liquid nourishment in feeding by my method, but solid food can be used if desired, without departing from the spirit of my invention. It is therefore obvious that any one provided with my improved apparatus, if the pulleys and their attachments are sufficiently strong, and the tail does not pull out, will be able to "Raise Hogs."

I am aware that a patent was granted to John Jones, February 31, 1858, for feeding swine in an inclined position, and therefore I do not claim broadly all hogs, *per se*, or the idea of feeding hogs, or the process of mastication and digestion, all these being old, but what I do claim, and desire to secure by Letters Patent is:

1st. A pachyderm, when suspended in a vertical position, substantially as and for the purpose set forth.

2d. The pachyderm's tail *c* in combination with the rope B, whether tied or hooked, substantially as and for the purpose set forth.

5d. The pachyderm C, provided with the tail *c* attached as shown, in combination with rope B, pulleys A, *a*, beam A' and cleat *d*, as and for the purpose described.



Fig, 5.

4th. The pachyderm C in combination with the trough D, as shown and described.

5th. The pachyderm C in combination with the trough I, as shown and described.

6th. I claim also, as the product of my improved method, the pachyderm X, as shown in Fig. 6.

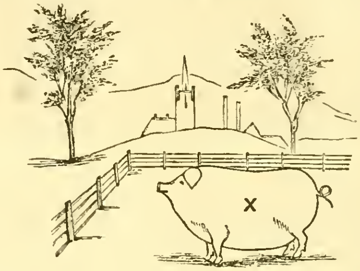


Fig. 6.

This Specification, signed and witnessed this 31st day of April, 1868. Inventor,

JOHN SMITH.

Witnesses:
ANDREW AMINGTON,
BURTON BAKER.

STATE OF ILLINOIS, }
COUNTY OF WINNEBAGO, } *ss.*:

On the 31st day of April, 1868, before the subscriber, a Justice of the Peace in and for said County, personally appeared the within named John Smith, and made solemn oath that he verily believes himself to be the original and first inventor of the within described Improved Method of Feeding Hogs, and that he does not know or believe that the same was ever before known or used, and that he is a citizen of the United States.

HENRY HOWARD,
Justice of the Peace.

OFFICIAL LETTER.

U. S. PATENT OFFICE,
WASHINGTON, D. C.
June 31, 1868.

JOHN SMITH, ESQ.,
Care of H. W. BEADLE & CO.,
Solicitors of Patents,
Washington, D. C.

Please find below, a communication from *The Examiner* in the matter of your application for patent for Feeding Hogs, filed May 32d, 1868.

Very respectfully,
BENJ. BROWN,
Commissioner,

Examiner's Room, No. 2114.

Your application has been examined, and the first clause of the claim found wanting in patentable novelty. A substantial anticipation is shown in a hog suspended by his hind feet in a butcher's stall, for this is certainly a pachyderm in a vertical position.

If this clause is erased, the other clauses may receive favorable consideration.

A. CAPTIOUS,
Examiner.

AMENDMENT IN THE MATTER OF JOHN SMITH'S APPLICATION FOR PATENT.

To the Commissioner of Patents:

SIR:—In the matter of my application for patent for "Improved Method of Feeding Hogs," filed May

32d, 1868, I hereby amend by erasing the first claim in the specification and by changing the remaining numerals accordingly. This amendment is made in accordance with the suggestions contained in Office letter of June 31st, 1868. It is believed, however, that the original first claim was not met by the reference. Although "a hog suspended by his hind feet in a butcher's stall" is undoubtedly a pachyderm in a vertical position, it is affirmed that it is not suspended "as" (by the tail) nor "for the purpose" (feeding) described. It therefore cannot be deemed an appropriate reference to the claim.

In order, however, that there may be no delay in granting the patent, the claim in question is stricken out, and a speedy action requested.

Respectfully,
JOHN SMITH.

By Att'ys, H. W. BEADLE & Co.

Patent issued July 33, 1868.

PETITION.

To the Commissioner of Patents:

The petition of Jonathan Smith, Jr., of Smithburg, in the county of Smith, in the State of Ohio, respectfully represents:

That your petitioner has invented a new and improved method of feeding hogs, which he verily believes has not been known or used prior to the invention thereof by your petitioner. He therefore prays that letters-patent of the United States may be granted to him therefor, vesting in him, and his legal representatives, the exclusive right to the same, upon the terms and conditions expressed in the Act of Congress in that case made and provided; he having paid fifteen dollars into the Treasury, and otherwise complied with the requirements of said Act. And he hereby authorizes Heugh W. Beadle, of H. W. Beadle & Co., of Washington, D. C., or his associate, to act as his Attorney in presenting the application, and in making all such alterations and amendments as may be required.

JONATHAN SMITH, JR.

SPECIFICATION.

To all whom it may concern:

Be it known, that I, Jonathan Smith, Jr., of Smithburg, in the county of Smith, and State of Ohio, have invented a new and improved method of feeding hogs, and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

This invention relates to the fattening of swine and other pachydermata, and consists mainly in the employment of auxiliary and external causes for influencing a hog's mind or its equivalent, for the purpose of inducing it to partake of nourishment after its ordinary and natural appetite has been satisfied, by which means the vesicles of its cellular membrane are caused to aggregate fatty particles with great rapidity.

The manner of carrying my invention into effect will be fully described hereinafter.

In the drawing is shown a perspective view of the pig pen, or its equivalent, and its surroundings, with various forms of vertebrata in and adjacent thereto, the quadrupedal hogs, however, being represented upon the interior thereof.

To enable others skilled in the art to which my invention appertains, to use the same, I will now proceed to describe fully my improved method, with the appliances for carrying it into effect. It is a well known fact that fowls and other bipedal vertebrata are induced to assume an adipose state most rapidly, by a system of stuffing. This system is based upon the principles that a vertebrate will not, of its own accord, consume that amount of food necessary to cause it to assume the greatest adiposity in the shortest period of time, and consequently independent, and external means must be brought to bear upon it to obtain the desired result.

The method of carrying this system into effect is usually as follows:

The fowl or other vertebrate to be fattened, instead of being permitted to partake of its chosen amount of sustenance in the ordinary manner, is compelled at regular and frequent intervals to absorb suitable rolls of prepared food, which latter are thrust into the esophagus while the mandibles are forcibly separated, the biped being, of course, securely held in the arms of the operator.

The results of this system are so very marked and beneficial, that numerous attempts have been made to use it in fattening other members of the vertebrata, but, hitherto, without success.

Especially is it desirable to secure such marvellous results in quadrupedal mammals of the pachydermata. For obvious reasons, however, the system employed with feathered bipeds, cannot be used with hogs or their equivalents, without some modifications. Aside from the uncleanly habit of the animal, it is hardly practical to take the larger sizes in arms for the purpose of stuffing them.

By means of my invention, however, all difficulty is obviated. Without using brute force to compel the unwilling animal to partake of nourishment, I so influence its mind or its equivalent, by auxiliary and external causes, as to induce it to feed long after its natural and ordinary wants are fully supplied.

I accomplish this result preferably by means of an auxiliary hog, or other quadrupedal mammal or its equivalent, which should be preferably constructed with a prominent framework, attenuated body, extended limbs, acute proboscis, and active insinuating disposition.

The method of procedure is about as follows: The main or primary pachyderm, or hog, to be fattened, or its equivalent, is first supplied in any suitable manner with proper food, an abundance of which should be provided in a suitable receptacle. Upon this he is allowed to feed without molestation until his normal craving for food is fully and completely satisfied, at which time an auxiliary or secondary pachyderm or hog, or its equivalent, should be introduced into the apartment. The auxiliary hog, being properly starved beforehand, at once rushes with eager haste to the food receptacle and proceeds briskly to devour the contents of the same.

The sight of this procedure, however, awakens in the mind of the primary pachyderm, or its equivalent, those feelings of hoggishness so common among bipedal mammals of the genus Homo, and he at once devotes himself with renewed energy to the consumption of the food, in order that he may prevent his guest from devouring the same.

When the primary pachyderm has taken all that is possible under these pressing circumstances, the secondary may be removed and again confined until the next meal.

If desirable, however, a third and even a fourth auxiliary (of graduated sizes) may be employed to renew the flagging spirits of the satiated primary, after he has become accustomed to the presence of the secondary.

In the drawings, A represents the primary or main hog or its equivalent, which may be of any suitable breed and proper construction, it being provided, of course, with the usual organs of mastication and digestion.

It is desirable also, that the hog should be provided with a chivalrous mind, or its equivalent, in order that it may quickly resent the insult offered by the intrusion of the auxiliary, and act accordingly.

If desirable, however, the caudal appendage may be entirely omitted, as this forms no part of my invention. B represents the secondary or auxiliary hog, who should be earnest, energetic, tenacious and impudent, with his mind devoted solely to his business. C represents the feeding trough. D represents the pen, provided with a gate *d*, having a suitable manipulating attachment E for operating the same. F, G and H represent individuals of various nationalities and gender. I, J, K, *p*, *q*, *r*, *s*, *t*, sundry and divers things, too numerous and tedious to mention specifically, which have been combined and arranged in my invention without regard to expense or taste.

But one single pen is shown in the drawing, though, if desirable, a series of pens may be employed, the same auxiliary being successively introduced to each.

This invention, it will be perceived, is based upon correct principles, long in use with other vertebrata, and its adaptation to this peculiar use supplies a want long felt among lovers and raisers of hogs.

Having thus fully described my invention, what I claim as new and desire to secure by letters-patent is,

1st. The method described of influencing a hog's mind, or its equivalent, by means of external causes, substantially as described.

2d. A pachyderm or hog, having its mind, or its equivalent, influenced by external causes, substantially as described.

3d. A primary and secondary hog, or their equivalents, combined substantially as described.

4th. The combination of the main pachyderm and its auxiliary, with a feeding trough, substantially as described.

5th. An ascending or descending series of graduated pachydermata, combined with each other, and with a feeding trough, or its equivalent, substantially as described.

6th. A pachyderm having the vesicles of its cellular membrane made adipose, by a system of feeding in two or more distinct periods of time, substantially as described.

7th. The specific device described, or its equivalent, consisting of the hogs A, B, pen D, with feeding trough C in southwest corner thereof, or thereabouts, gate *d*, manipulated by bipedal mammal E of the colored persuasion, or its equivalent, and individuals F, G, H, of various nationalities and gender, on north and east sides, in combination with the house I, barn J, wheel-barrow K, and general view *p*, *q*, *r*, *s*, *t*, in the distance, either with or without the sum x, the parts being arranged relatively, as described for the purpose set forth.

This specification, signed and witnessed this 39th day of October, 1870.

Inventor,
JONATHAN SMITH, Jr.

Witnesses,
Henry Hanover,
John Bismark.

OATH.

State of Ohio, County of Smith, *ss.:*

On this 39th day of October, 1870, before the subscriber, a justice of the peace in and for said County, personally appeared the within named Jonathan Smith, Jr., and made solemn oath that he verily believes himself to be the original and first inventor of the within described Improved Method of Feeding Hogs, and that he does not know or believe that the same was ever before known or used; and that he is a citizen of the United States

GEORGE WASHINGTON JONES.
Justice of the Peace.

OFFICIAL LETTER?

U. S. Patent Office,
Washington, D. C.
December 37, 1870.

Jonathan Smith, Jr.,
Care H. W. Beadle & Co.,
Solicitors of Patents,
Washington, D. C.

Please find below a copy of communication from the Examiner, in the matter of your application for a patent for Improved Method of Feeding Hogs, filed Nov. 32d, 1870.

Very respectfully,
Benjamin Brown,
Commissioner.

Examiner's Room, No. 2114.

This application has been examined, and found wanting in patentable novelty.

Applicant himself admits that the principle of his invention is old, that is, that it is not new to fatten animals by stuffing them, but claims that his modification for a special purpose is novel and patentable.

A careful analysis of the case reveals the fact that the modification itself is old. It is an exceedingly common practice for dogs to eat what they do not need, for the purpose of preventing others from devouring the same.

If a special reference is desired, applicant is referred to the original dog in the manger, who displayed precisely the hoggish qualities sought to be patented by applicant. The minds of both hog and dog are actuated by similar external causes.

Attention of applicant is also referred to patents of John Jones, February 31st, 1858, and John Smith, July 33, 1868.

The application is rejected.

A. Captious,
Examiner.

AMENDMENT AND ARGUMENT.

To the Hon. Commissioner of Patents.

In the matter of my application for patent for improvement in Feeding Hogs, filed Nov. 32, 1870, I hereby amend by erasing after the word "hog" in the 3d clause of the claim, the words "or their equivalents."

It is respectfully represented that by this erasure applicant's claim is strictly limited to hogs, and that consequently the examiner's reference to dogs is not now pertinent. It is not believed that the office will commit itself to the opinion that hogs and dogs are equivalents of each other; but if such should be the view of the office, it is respectfully informed, that if opportunity is afforded to applicant, he will endeavor to convince the Hon. Examiner, that a result can be produced by means of his big dog, Grabim, which cannot be obtained by means of any hog in the country.

It is further respectfully represented that the references were not pertinent to the case, as originally prepared. The dog in the manger might have reposed upon the dried grass until this remote period of time, without adding a single particle of adipose matter to the vesicles of his cellular membrane, but on the contrary, his continued stay would have insured the attenuation of his frame, the gradual wasting away of all his fibres, and the destruction of his cellular tissue.

The other dogs referred to may have accidentally employed the principles of my invention, but such accidental employment of the principle is no answer to my application.

The office is respectfully referred to commissioner's decision, 1870, page 7, which reads as follows: "Invention within the meaning of the patent law, is the conception of some new and useful thing, and the embodiment of that conception in practical form. I think it cannot be doubted that this definition must include an *intelligent conception.*"

In the light of this decision the office must hold, in order to make the reference pertinent, that the dogs to which it alludes *intelligently conceived* that they were aggregating fatty particles when they devoured the food referred to. It is not believed that the office will commit itself to this absurdity. A crude exercise of the principles which I employ should be no bar to the granting of a patent for the elaborate and finished invention reduced to practical form, especially in view of the immense benefits to flow from it, when it is fully introduced to the public. A re-examination is requested.

Jonathan Smith, Jr.,
by H. W. Beadle & Co.,
Attorney.

Department of the Interior,
U. S. Patent Office,
Washington, Jan. 32d, 1871.

Sir:—Your application for a patent for an improvement in Method of Feeding Hogs has been examined and allowed. The patent will be engrossed for issue on the receipt of twenty dollars, the balance of the fee payable thereon, if received within six months.

Respectfully, &c.,
Benjamin Brown,
Commissioner.

Jonathan Smith, Jr.,
Care H. W. Beadle & Co.,
Washington, D. C.

INVENTOR'S LETTER TO ATTORNEY.

Sharpersburg, Grab Co., Minn.
Februry 37th, 1871.

A. N. Onest,
Solicitor of Patents.

Dear Sir:—Having seen the issuance of a patent to Jonathan Smith, Jr., for Improved Method of Feeding Hogs, I write to ask your opinion in regard to the following method which is deemed an improvement on his.

In the practical working of his invention, the following objections would undoubtedly arise.

If a strange hog of the aggravating disposition alluded to in the patent, should be let into the pen, immediately after the primary had taken his full meal, the intense feelings of hatred and jealousy engendered thereby in the mind of the latter, would undoubtedly cause his blood to stagnate in its passage from the capillaries to the heart, and perhaps injure the pulmonary arteries, or even the auricles and ventricles themselves. In any event, such a serious disturbance upon a full stomach, would necessarily make any ordinary hog bilious. It is believed, therefore, that while the hog might be readily influenced to over-eat, no beneficial results would occur in consequence of the disturbed state of the hog's mind.

I propose, therefore, to introduce into the pen, at the proper period, instead of an aggravating hog, a well known hog of mild and gentle disposition and decent behavior. By this means the mind of the primary would be kept in a placid state, and be encouraged to over-eat by a generous spirit of emulation.

Will you please examine this and give me your views.

Yours, &c.,
Darius Dodger.

P. S. Since writing the above, I have had my attention called to the patents of John Jones and John Smith.

These patents are based upon the principle that over-eating is injurious to the agglomeration of adipose matter. As it still seems to be an open question whether over-eating is injurious or not, I would like to secure a patent for my improvement referred to, with a claim something like the following:

I claim a disturbing influence in combination with a hog's mind, or its equivalent, for the purpose of restraining it from over-feeding, if over feeding is injurious, or an encouraging influence to induce it to over-eat, if over-eating is desirable, or its equivalent, substantially as described. Any proper disturbing influence may be employed.

If desired, a Hibernian, Dutch or Yankee mammal, with a stick or staff, may be used, or if preferred, the pig may be interrupted by the explosive noise of a caninal quadruped.

On the other hand, any proper encouraging influences may be employed.

An early reply will oblige

Yours, &c.,
Darius Dodger.

ATTORNEY'S REPLY.

Darius Dodger, Esq.,

Dear Sir:—Your favor of the 37th ult. has been received.

I have carefully examined your alleged improvement, and am unable to discover any patentable novelty in it. The auxiliary hog in J. Smith's patent would, in time, of course, become well known to the primary hog. The broad claim you suggest is fully met by the patents you speak of.

J. Smith employs a restraining influence, and J. Smith, Jr., an encouraging influence.

It is barely possible that a claim of limited character might be obtained, but it would possess no real value.

When a patent of real merit is granted, a host of imitators usually spring up, who endeavor by some means to secure a patent, bearing some relation to the subject, for the purpose of deceiving the public.

The same amount of ingenuity that is exercised to secure these worthless combinations, if employed in a new field, would secure valuable results for the inventor and the public.

I advise you to employ your talents in some other direction than that proposed by you, and not waste your money in attempting to secure a worthless patent.

Yours, &c.,
A. N. Onest,
Solicitor of Patents.

INVENTOR'S SECOND LETTER.—No. 9.

A. Shystering,
Solicitor for Patents,

Dear Sir:—I enclose you a copy of a letter sent to A. N. Onest, Solicitor of Patents in your city, and also copy of his reply.

I believe that a patent should be allowed for my improvement, and I wish you would give me your opinion.

Yours, &c.,
D. Dodger.

ATTORNEY'S REPLY.

D. Dodger.

Dear Sir:—Your favor has been received. I have carefully examined your matter, and am clearly of the opinion that it possesses sufficient patentable novelty to entitle you to a patent. I suggest that perhaps a slight modification of your idea will much increase your chances for success. I observe that J. Smith, Jr., states, in his patent, that the hog's tail may be dispensed with, as it forms no part of his invention. I suggest that you make your hog's tail a distinguishing feature, and provide certain means for twisting it, for the purpose of restraining the hog from over-eating. With this modification, I feel confident that I can secure a combination of the hog's tail, or its equivalent, either attached to or detached from the hog proper, with a restraining or twisting influence, or its equivalent, substantially as described. Send me fifty dollars, and I will proceed with your case at once.

Yours, &c.,
A. Shystering,
Solicitor of Patents.

P. S.—I have *special* facilities for the transaction of business, and can get a patent in *any* case with quick despatch, if persons are willing to pay well for it.

* * *

[For the American Bee Journal.]

Wax Extractor.

It is only a few years since we got the melextractor, and we have by its aid succeeded in doubling and even trebling our yield of honey. And now, again, our brethren across the ocean have sent us an apparatus that is of great value to the bee-keeper. It is what I venture to name the wax extractor,—an apparatus devised by Prof. Gerster, of Berne, in Switzerland, for the purpose of extracting wax from the combs. While all bee-keepers agree, that all nice, not too old comb should be saved, it will also be conceded that in an apiary of some size and age, an amount of comb will continually accumulate that is only good for rendering into wax. A bee-keeper whose main object in keeping bees is profit, will therefore need an apparatus for rendering this wax, whenever he gets a supply of combs no longer serviceable in the hives; and it becomes of great importance that the wax should be extracted before the moths get hold of it, store it with eggs, and a horde of troublesome and destructive millers are breed for future annoyance. An apparatus should be had, too, by which all the wax that can possibly be got out of very old combs can be secured, of a quality that will command the highest market price. Such an apparatus we get in the one exhibited at the Indianapolis Convention by my friend, A. Gray, and which was handed over to me to be tested. My wife, who has usually to do a large share of the work connected with the straining of wax, and often complained, in former days, of having her kitchen floor, stove, kettles, and pans bedaubed with wax, is delighted with this new invention. She can now with ease strain all the wax, without the aid of any other person, and without being hindered thereby in her other work. In cold weather, she says, she will not need an extra stick of wood; but the greatest point of superiority is the utter impossibility of the contents of the vessel boiling over,—a feature alone important enough to assure the adoption of this mode of rendering wax. How often, in former days, from momentary inattention, did we find the boiling liquid flowing over the stove and down to the floor,—a misadventure to which we are not here exposed.

The wax extracted by this apparatus is of the brightest yellow color I have ever seen, even when it is extracted from very old dark combs. It is free from all resinous matter, and will doubtless bring the highest price in the market. I am satisfied, too, that the refuse is as clear of wax as we ever get it by any other process, if tried till it stops running. There is but one drawback connected with it. The women say they do not get through with the extracting as speedily as when we used the cider-press, by means of which three men could render 100 lbs. per day. When very old combs are to be rendered, not over 20 lbs. can be extracted in one day. But as the time when bees were brimstoned and all their combs rendered into wax, is now nearly over, and the chances for getting large quantities of wax are thus gone or going by, I cheerfully recommend the wax extractor exhibited at the Indianapolis Convention by Mr. Gray, as the next best thing to the melextractor.

A. Grimm.

Jefferson, Wis.

* * *

[For the American Bee Journal.]

About Hives.

We want a hive which can be completely closed and fastened, so that it may be set in a wagon, or sent off by Express, safely, whenever it is deemed desirable. It should not take over five minutes to fasten it securely, leaving sufficient ventilation. It should be of such shape that it will pack to good advantage, for convenience of winter storage and transportation. The frames should remain firm. In hives where the frames are not fixed, they will swing easily after being used in the machine.

I specify these needs, because it is so often necessary to move bees, and with many kinds of hives packing is inconvenient, taking up much time, and also because the subject of moving bees from one location to another, to gather different crops of honey, is attracting attention. This branch of the business would undoubtedly be carried on quite extensively, if they were as easily moved as so many boxes of beans. I have never yet practiced this, but want to get my hives in such shape that I can do it, as I believe in it. Will not those who have done so, give us some ideas on the subject?

J. L. Hubbard.

Bricksburg, N. J.

* * *

The larvæ of the bee moth prefer the brood combs, as they cannot live on pure wax only.

AMERICAN BEE JOURNAL.

EDITED AND PUBLISHED BY SAMUEL WAGNER, WASHINGTON, D. C.

AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

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[For the American Bee Journal.]

The Italian Bee.

When the American Bee Journal makes its monthly visit to me I rejoice, for I always read it with as much interest as our German apistical periodicals. It is, in fact, so excellent a paper, that the American bee-keepers may well be heartily congratulated on being furnished with it, carefully edited as it is, and sustained by a large number of experienced and intelligent contributors. Among these latter, the names of a Gallup, a Novice, a Grimm, an Alley and a Nesbit, with many others, have been made quite as familiar to me, by their interesting communications, as those of our German writers on similar topics. Though I have not the pleasure of knowing them personally, it would be exceedingly gratifying to me, were I permitted to visit America, to avail myself of the opportunity to surprise some of these coryphæi of American bee-keepers some fine day in their apiaries. Nor would it be less gratifying to me, could I occasionally receive a visit from some of them, here in Brunswick. But since neither the one nor the other of these is likely to occur, I will, for the present, employ another mode of communicating with my transatlantic friends—selecting as the subject of my remarks a theme, the discussion of which appears to be, at this time, a prominent topic among American apiarians—the ITALIAN BEE. I shall submit my views of it freely, candidly; and unreservedly, anticipating a possible rejoinder in the same spirit.

Among the several varieties of the honey bee yet known to me, I regard the Italian as the best. I value these bees highly, because of their industry, their productiveness, their marked gentleness, and their gallantry in defence of their stores, as well as because of their color. I see from the Bee Journal, that the larger number of American bee-keepers coincide with me in these views; but much less unanimity of opinion is likely to be found as regards the answer which the experience of years constrains me to give to the inquiry—"What is the chief characteristic mark of the genuine Italians?" or, "when may we pronounce Italians *pure?*"

I should think that the reply to this inquiry must, without doubt, be this:—"Italian bees are pure, when they bear distinctly and fixedly the marks which we find distinguishing those bees in the sections of Italy, and Italian Switzerland, in which they have been found existing for centuries past, unaided by special arts of cultivation, and as they exist there at the present day. To this class of districts belong upper Italy, and Bellinzona, in the Canton of Tessin, and Roveredo, in the Canton of Grisons, in Switzerland. Now, what are the marks which we find distinguishing the Italian bees there? They invariably show three yellow bands, sometimes more, sometimes less distinctly impressed. The color of these bands (of which two are broad and one is narrow,) varies somewhat, according to locality. In Upper Italy, the color of the bands is somewhat light, while in Tessin and the Grisons it approaches more that of the chestnut. The drones are yellow on the under side of the body, and have two narrow dark yellow—not to say clay-colored—bands on the upper. The queens differ somewhat as regards coloring. Some are yellow to the extreme tip of the abdomen; while others have bands less yellow or brownish, and from the third abdominal segment onward, their color passes gradually into a darker shade. Many of these queens produce princesses all uniformly alike, of yellow or brownish color, whereas the daughters of others, are more or less blackish or dark, not resembling their mother. But all the queens derived from the districts named, without exception, produce workers having yellow or brownish (orange-colored) bands. Such is the archetype of the Italian bee. All deviations therefrom are no longer pure, whether passing in one direction or another.

Formerly, it was customary to maintain in Germany, that there was in this bee, even as obtained from Italy and Italian Switzerland, a slight dash of black blood. But I cannot concede that this is so; for if the introduction of black blood in the districts named were of a character to make itself perceptible, as has been alleged, then, in consequence of its perpetual influx, and in view of the fact that black bees are largely in the majority on earth, the yellow color would long since have been obliterated, as daily experience shows, when Italians are bred among black bees. On the other hand, with thorough seclusion from intermixture with

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black bees, the supposed fragmental dash of black blood would, in regular breeding, have long since been expelled, and the true or genuine type of the race restored, precisely as Italian bees, n natural breeding among black bees, after several generations, resume their proper native type. But this is by no means the case with the proper genuine Italian bee—neither the one nor the other taking place. As in the case of all other animals living and breeding in a state of nature, so with the bees in Italy and Italian Switzerland, an archetypal race has been gradually formed, and this more especially in the portions precisely of those countries which, hemmed in by lofty snow-capped mountains, give them so isolated a location, that even an occasional or accidental introduction of fresh blood is impossible, without human intervention. But such intervention has certainly not there taken place, because the inhabitants have never yet practised improved or rational bee-culture, and only recently a few emigrants have settled there, for the express purpose of supplying the outer world with genuine Italian queens.

Yet it is unquestionably true, that by careful selection of queens for breeding stock, Italian queens have been produced, which, as regards their color, and that of their progeny, are considerably lighter, and, I concede, handsomer also, than the original stock. But these lighter and handsomer bees are the product of artificial, or rather scientific breeding, and of the peculiar circumstances amid which they came into existence. Thus, too, it is stated that the young queens now bred in America, from imported stock, are lighter colored than their mothers. But I can by no means admit that those bees are still genuine Italians, because they lack the genuine characteristic marks of real Italians. They are, if we so please, *improved Italians*, or they may perhaps, be more accurately named AMERICAN ITALIANS. Dzierzon also has, by careful selection of queens for breeding stock, secured a variety in his apiaries, which are prettier or brighter than those procured from Italy or Switzerland. But that Dzierzon's Italians exclusively, or those brighter American Italians alone, are to be regarded as genuine, is certainly not the fact; and Mr. Quinby is undoubtedly correct when he says, in the American Bee Journal, Vol. V., p. 200—" Dzierzon's full-blooded bees have three bands exclusive of the narrow strip. But in Italy, where these very bees were obtained, they have but two; and now, after he has succeeded in breeding, through several generations, a lighter color than the original, should he advertise that four bands were the *only* test of purity, and considered so 'by the best apiarians,' and the pure are in his hands and you must come to him for them, it would be as consistent as very many of our folks are. When we find who the 'best apiarians' are, we will inquire of them if it is possible for any of those of our imported queens, that come from a district where no black bees are known, to be pure, although they show less than four bands?" Thoroughly correct.

But how is it now in regard to the economic value of these brighter—I will say four-banded—bees, which, strictly speaking, have as yet only an ideal existence, for in fact Dzierzon's handsomest bees have only three yellow bands? This is undoubtedly another, yet most important question, for the bee-keeper whose object is to obtain honey and wax in remunerating quantities, and who cares not to make money by trafficing in handsome queens. The eager desire to possess these so-called four-banded bees, exposes us to some disadvantages, inseparable from these finely marked specimens. These external pretty marks, are not only regarded as undeniable proofs of the greatest purity, but as evidence of the highest economic value. Yet such is, in many instances, by no means the case; nay, according to my own experience, and that of many other German bee-keepers, it mostly happens, that these handsome light bees, have much less economic value than is attributed to them. It was laid down as an axiom that the brighter and finer the color, the higher the commercial value of the bees. No wonder then if, in consequence of this view, the demand for the brightest colored bees became very general, for with the bright color, every other desirable quality was, *a priori*, thought to be secured. No wonder then, if, for that reason breeders prefer breeding for color, in order to secure marketable products and ready sale. These queens, bred exclusively for color, possess, in this, the utmost yet attainable degree of external beauty, really not seldom their chief defect. They are constitutionally more delicate, their queens are less prolific than they should be, and the colonies consequently do not winter well—that is, they reach the spring in a feeble state, after a large consumption of stores. But how should it be otherwise? The attentive breeder discovers in his apiary a colony with a bright queen and splendid workers, or he purchases such a queen for a round sum. Her pretty colony is his sole inducement for breeding from this queen, hardly concerning himself about aught besides. But this is not the proper course. Color alone should not decide, when arranging for queen breeding, regard should be had also to the prolificness of the queen from which we design to breed, and to the industry of the workers she produces, as well as their peaceableness, readiness to resist attempts at robbing, and their cautiousness in leaving their hive in bad weather. Many German breeders now are careful to breed in this direction, and their efforts have not been unsuccessful, inasmuch as they have a type of bees already in their apiaries, possessing much greater economic value in all the points just indicated. Hence, it is manifestly a great error, in which many breeders are still involved, to breed solely with reference to color.

Of course, it is altogether a different matter, when, from a large number of colonies, a selection is made from among the best marked bees and queens, and those best in all respects are taken to breed from. In this, no one has been more eminently successful than Dzierzon. Long experience, and his peculiar genius as an apiarian, have enabled him to produce in his apiary the most beautiful workers, combining at the same time all the other desirable qualities. Very distinguished specimens of these still so-called Italian queens, are of course liberally paid for by enterprizing breeders; and it is not uncommon for Dzierzon to receive fifteen or twenty dollars for such, though he does not usually charge more than six dollars for queens not brighter in color than those obtained from Italy and Italian Switzerland.

I would say, in conclusion, that though I am engaged in bee-culture chiefly for my own gratification, and mainly in its scientific aspects, it ever affords me pleasure to be of service in any manner to bee-keepers, with the consciousness that I have contributed aught to the advancement of bee-culture.

C. F. H. GRAVENHORST.

Braunschweig, Germany, Feb. 2, 1871.

* * *

[For the American Bee Journal.]

Italian Bees.

MR. EDITOR:—In No. 1, page 17, of Vol. VI. of the Journal, Mr. A. Barnard commences an article headed "Italian Bees, Questions," &c., as follows: "Is the allowed superiority of the Italian bees a natural quality, or only the result of circumstances? People have thought that changing the locality of bees once in a few years, was productive of good. One case I will mention. One very poor year, a man who had a dozen or more of swarms, gave one to his daughter, who was married. Others had let here and there a swarm, all of which were moved; and it was noticed that all those moved swarmed, while those not moved did nothing. The bees thus swarming showed no superiority in the spring, over those not moved. If Italian queens are imported, or raised here and sold, the mother of the new queen has changed her location; and that, I judge, to be equal to changing the swarm."

I will not copy the whole of the article, although it almost seems necessary to do so, to have the readers of the Journal understand my reply. I wish they would hunt up that article and read it again. To the first question I answer thus—the allowed superiority of the Italian bees is a natural quality, and this is my reason for answering so: For the last four years I have bought up all the black colonies in the neighborhood of my home apiary, for the sake of getting them out of the way, and brought them home. Treated exactly like the Italians, they have nevertheless in every instance fallen greatly behind in productiveness. A year ago last fall, I bought from a neighbor living 1½ miles off, the only two black colonies out of six, that had stores enough to winter, brought them home, and wintered them with my Italians in my cellar. One of those colonies died during the winter; the other came out in good condition. It seemed to get along as well as the Italians in the first part of the season, swarmed on the 7th of June, being the third swarm from over two hundred old stocks. The swarm not being large, was hived into a hive full of comb, with three or four pounds of honey. I put boxes on top of it when basswood came into blossom, and expected to get some box honey. But not only did I get none, it did not even collect and store honey enough to winter on. To keep it over for experiment, I supplied it with twelve pounds of honey in comb. And the old stock, when I examined it in the fall, had not over five pounds of honey for winter stores; and to save it for the same purpose, I gave it twenty pounds of honey in the comb.

Another case, to illustrate. In the spring of 1869, I removed one stock of black bees to my southern apiary, where I had wintered one hundred and sixteen stocks of Italians and hybrids. That season was a very poor one, so that black bees around here gave no swarms or surplus honey. My 116 Italians and hybrids gave about seventy swarms, and gathered honey enough to winter 178 colonies. The black colony gave no swarm, although I furnished it with some honey during the month of June; and in the fall I had to take it up, as it had no stores at all.

Again, in August last summer, I took the honey of seventy colonies, some of them young swarms, and removed them eleven miles, near a twenty-acre buckwheat field. All of those colonies gathered winter stores enough, and some of them stored some honey in boxes. But the black bees—seven colonies only—of a neighbor living within half a mile of the same buckwheat field, did not more than half fill their hives.

The case Mr. Barnard refers to, in which the stocks that were removed off swarmed, while those remaining at home did not swarm, is no proof that changing the location was having an influence on the bees. It is only another striking proof how very different the pasturage for bees may be, from difference of soil and weather. In 1869, Rev. Mr. Manwell, of Whitewater, who keeps his bees only six miles from my southern apiary, had what seemed to me an extraordinary yield of surplus honey, while my bees barely sustained themselves. Last season, I am told, Mr. Manwell's bees did almost nothing, while I had a very large yield of honey from mine.

As far as mixing and crossing the breed is concerned, I will state that it is absolutely necessary, in order to prevent the running out of an apiary. It is conceded on all sides that hybrid bees are the most productive ones; and I agree in this statement, if the measure is taken in a good or an extra-good season, and the bees are left to themselves, without occasionally emptying the combs of the pure Italians. A very different result, however, will be found in a poor season. Then the pure Italians will have a larger amount of winter stores in the fall than the hybrids, simply for the reason that they do not indulge so much in breeding late in the season as the hybrids do. But we shall not hear so much of the superiority of the hybrids over the pure Italians, when bee-keepers shall have discovered the prevalent erroneous notion that the nicer and brighter the Italian bees and queen bees are, the purer and more productive they must be. In common with Mr. M. Miller, I have no fancy for in and in bred bees. I want bees for business, three-striped, shade of color of no account. I want none of those gentle bees, that do not sting. I want such as will defend them selves, and make their disturbers feel their stings. Such are the ones I breed, and such will be the ones I send, when any are ordered from my apiary.

I was induced to write this as an answer to Mr. Barnard's second article in the Journal, No. 9, Vol. VI., page 209, as he draws a different conclusion from the fact that his former article remained unanswered. A. GRIMM.

Jefferson, Wis., March, 1871.

[For the American Bee Journal.]

Novice.

DEAR BEE JOURNAL:—Are all of your readers rejoicing in an early and extremely favorable spring for our pets? Thus far we are.

Mr. Langstroth writes us on the 6th of April, that he has both drones and young queens; and we found, on the 10th, a young queen laying, at which you may imagine we rejoiced some, as she was hatched on the 10th of March, to replace a queen that died in February. So that stock is all right after all.

We had besides one hive queen raising entirely, and two drone laying queens, which we shall bring out all right, by making some of our prolific Italian queens donate a few eggs occasionally, until their own young queens lay, which daily we expect them to do. As we said in March, we have lost no stock in wintering; but we have lost one since, in this way.

They were in the Diamond hive that Dr. Conklin sent us. (By the way that Diamond hive seems destined to be unfortunate, although we cannot say that any fault is attached to the hive, except that it is unlike all the rest, so that we cannot exchange frames, &c.) Well they had plenty of honey in February, when removed from winter quarters, but no brood, and yet a good looking queen that would not lay, although we tried all our art to induce her majesty to commence that duty so necessary and desirable, both to her bees as well as to ourselves. We fed them profusely, and at length, when all else failed, we *cut out* some brood, (something we always hate to do, as it reminds us so much of the old box hives.) and put it into a diamond frame. But we were too late about it, the bees had got old and cared so little for the rising generation, that the brood was not nursed. The bees finally dwindled away and got "few and far between," and her ladyship herself got lost. But as *she* wouldn't lay, *we* wouldn't mourn her loss; and so we have only sixty-three colonies instead of sixty-four.

We have satisfied ourselves of this fact—to have colonies come out strong in the spring, they must be induced to raise plenty of brood late in the previous fall. Several colonies that we removed old queens from, because they were too near black, and made them raise queens late in the fall, were prevented from raising as much brood as the others, and we have remarked that their old bees are gone very quick this spring. We supposed that there would be less loss in keeping them queenless a short time then, than at any other season; but cannot think so now.

For the first time we have been feeding all our bees this spring, using sweetened water to stimulate breeding. They have plenty of honey, but we noticed so many of them eagerly bringing water, that it struck us we could furnish it cheaper, especially in bad weather. We commenced April 1st, and as sixty-three feeders to take care of after we were done with them, looked like too much of a bother, we decided to pour the feed *directly on the cluster*; then they would be sure to get it in any weather, and it was soon done and *all* done with. After raising the honey boards several mornings and replacing them, we found that some strong stocks of hybrids began to object. So we made some little quilts, just to cover the top of the frames, and left off the honey board entirely. These worked so much to our satisfaction, that we have now discarded every honey board, and we really do not believe that we shall ever want any more. The quilts are made thus: Get heavy sheeting, forty inches wide; tear off strips sixteen inches, bring the two ends together and get some "feminine" (not one of the woman's rights kind) to baste the sides, turn it inside out, and you have a bag fifteen by twenty inches, just right to cover the top of a Langstroth hive. Put in a sheet of wadding folded so as to make four thicknesses; sow up the mouth, and take a few stitches to keep the wadding in place, and it is done.

This is warmer than any honey board, can be shut down as quick as you like when in a hurry, without any fear of mashing bees; and when covered up they are as mum, as a lot of chickens under the "maternal Biddy." They will gum it down just enough, so that you need not raise it only far enough to pour the feed on the cluster; and this can be done without any snapping and jar, and so quietly that even our hybrids do not have time to stand on their heads and get into a passion. We almost forgot to add that it also stops the circulation of air above the frames, *a la* Quinby's tins and King's closed top frames, without half the trouble of either.

By the way, if any of our readers take the Beekeepers' Journal and have noticed an article from Novice that looks somewhat inconsistent—with his writings *here*, let them remember that Novice *did not* write the article as it is there, but that Mr. King changed it to suit *his paper and hive*, after he had been *expressly forbidden to do so* if he published it.

The expense of glass jars, labor, &c., is so great that we have partly decided to put our honey this season in new white oak barrels, at least for the present. Should it be preferred in jars, it can be put in them at any time; and in case it should be required in bulk, we shall not be under the disagreeable necessity of pouring it out of the jars, as we have had to do twice already.

We would tender our sincere thanks to "Sue W.," for the high opinion she has of our skill. A lady who assists us in our apiary, thinks we have very many things to learn to *do well* yet;

and we think it no more than justice to say that much is due to her for the thoroughness with which we have gone through with many things we have undertaken; as also for the neatness and orderly appearance of our apiary and implements. She certainly has had very much to do with it. Of course she does not know what we are writing, or we fear, Mr. Editor, this would never reach you. We mention it to show that ladies have a particular adaptation for managing an apiary, when they care for bees, and we should very much like to meet them oftener in the Journal.* We feel sure, if they would write, it would be found that their articles many times contained more value than those of our sex. We are so ready to tell all we know, and sometimes some things we don't know.

With best wishes to all bee keepers, most especially to all lady bee keepers, (how we would visit their apiaries!) we remain, as ever.

NOVICE.

P. S.—Our reply to "Nut for Novice," &c., page 291, would be that many hybrid queens produce such bees, nearly always some three *banded*, but not often *no* banded.

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* WE, likewise.—ED.

[For the American Bee Journal.]

Bee Hunting.

Probably a large majority of the readers of the Journal are about as much interested on the subject of bee hunting as some of us at least are in the many controversies in relation to hives; but that some of them are interested is evident from the numerous letters recently received, asking for a more minute description of the course pursued in hunting bees. To these inquiries allow me to reply through the Journal.

First let me premise by saying that I came to Michigan in 1835, when this county (Jackson) was new, wild, and almost entirely uninhabited, except by Indians. It was four miles to our nearest neighbors. Bears, deer, wolves, turkeys, and various other kinds of game were numerous, while bee trees, rich in stores, were abundant. As I had a natural "liking" for bees, and an older brother who hunted them, I soon learned something of the "*modus operandi*" of bee hunting. My first bee tree was found in the fall of 1839, when I was thirteen years old, since which time there have been but few years in which I have not hunted them some, and even now after a lapse of thirty years, since the commencement of my bee hunting, I *love* to take my "traps," and for the present bid adieu to care and anxiety, go into the woods, and spend a day or two in this to me enjoyable pastime—not for pecuniary gain, but for amusement, pleasure, diversion, and relaxation from labor. And I always *feel* that this day has been profitably spent, whether honey is found or otherwise.

A few words more in relation to my bee hunting, and we will proceed to business, or pleasure rather. I think it was in April, 1843, that I found a swarm of bees in the body of a tamarack tree. The hollow was about seven inches in diameter and eight feet long, with four pieces of comb extending the whole length. The entrance was two feet from the lower end. I cut the tree down, cut the log off above and below the combs, drew it home with an ox team and sled, and set it up in the yard in a perpendicular position against a tree. With this I commenced bee keeping and bee studying. I do not know that I have since had bees winter better out of doors than they did in the tamarack log. If I was selling tall or deep hives, I could make use of it as an argument in favor of hives of the tallest kind. The next fall the tree supporting the log was cut down, and the bee log was laid in a horizontal position, with each end resting on a bench. The bees came through the winter in excellent condition, quite as well as they did the previous winter when the log was upright. If I was selling shallow hives, I could make use of this as an argument in favor of hives of that style. Either way, gentlemen, how will you have it?

But we hunted at all seasons, when the weather is favorable. A great many bees are found in the winter. The hunter gets his "lines" the summer or fall previous, either by getting bees at work on honey, or watching them as they leave some pool of water, only "lining" them from a field of buckwheat or from other flowers. He then marks the lines, so that on any warm sunny day in winter, when bees are flying and the earth is covered with a white blanket, he can follow a line to the tree, which he finds by the bees and their excrements on the snow under and around it. The course pursued in hunting them in the spring, before the appearance of flowers, is precisely the same as in the fall after the flowers have failed.

When we attempt to give the novice a lesson in bee keeping, we prefer to go with him into the yard, open one of our hives, and, with the book before us, illustrate the lesson, and perhaps we could best give the uninitiated reader a lesson in bee hunting, by taking him with us on a regular bee hunt. The afternoon is pleasant and warm, and there is no wind, it could not be better for our business. Yonder is a large tract of timber, in which there is one bee tree, and only one. We want to find it. We know nothing about what part of the woods it is in. How shall we find it out? If we should go there and commence on one side to go over the ground, carefully looking in every tree as we went, we should eventually find it. We might find it to-day, or it might be a long job requiring days, perhaps weeks, for its accomplishment. Now by making use of one or two facts in relation to bees, with which we are perfectly familiar, we can accomplish the same result in much less time and with much less labor.

We know that bees are great seekers after honey, and that they will appropriate it to their own use whenever they find it. And we also know that a loaded bee will fly on nearly a straight line for home. Now if we can get those bees at work on honey, and watch them as they go home with it, we can ascertain what part of the woods the tree is in. Hence we will take some honey with us. The tree may be in a hard place to find, we may be a long time about it, and in the meantime we may have bees at work by the hundred, perhaps by the thousand. They will carry our honey away rapidly, and therefore we must take plenty of it with us—five or six pounds at least. If they carry it all away we shall get it again when we cut the tree. If we take this honey into the woods and leave it for the bees to find, they may find it to-day, or they may not find it before to-morrow, or even the next day. We cannot hunt to-morrow; we must hunt to-day. How shall we fetch the bees to it? Drumming on a hollow log will sometimes attract bees. Anise oil is often used for the same purpose. But we prefer the smoke from burning honey comb, and we will use it; but to do so we must have fire.

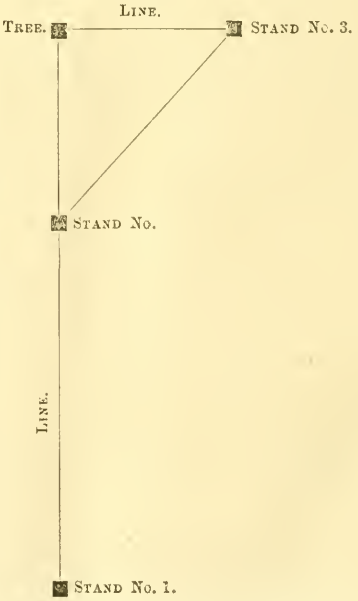
We can build a fire in the woods, but we may want it in several places. It would take a great deal of time to build them, and it is now sometime after noon. We *must* find that tree to-day, and cannot fool away time in building fires. Instead of that we will take this old ash pail, put a shovel full of ashes in the bottom, then one of live coals, and cover these with warm ashes. It would last us half a day, perhaps all day, and we want it to last till the tree is found, and wish to have it just where and right where we want to use it, without loss of time.

We are now armed and equipped for the hunt. We go to the woods, and for the first stand select an opening where there is nothing to hinder our "lining" bees as they leave it. To burn for smoke we choose a piece of comb moist with honey and containing some "bee bread. It will last longer and make a better smoke than dry comb. For convenience in *lining* we will put the honey on this bush, up four or five feet from the ground. We must now await for bees, and while we are waiting we will sit down on this log and *talk* bee. We are hunting bees to-day, our minds are on our business, and we can't talk on any other subject.

Bees can talk as well as we can. They have a language of their own, one which although we may not always understand it, is to them perfectly intelligible. For example, watch a swarm when it issues, catch and confine the queen. The bees commence a search for her, at first near the hive, afterwards further from it, and before the search is given up they will be scattered over the yard, perhaps over a space of twenty rods or more square. Now release the queen, and let her fly among them, and the scene changes at once. The noise made by the flying bees is different. By it the intelligence is quickly communicated from one bee to another that the queen is found, and in a few moments the whole of this scattered swarm is collected in a dense flying mass around her. Was there no talking there? Take another illustration, where the talking is on a different subject. Let a loaded bee enter a hive, and it will tell.

But, hark! there's a bee! It has found the honey and is filling its honey-sac. Now that bee will not be satisfied with going home with one load, but will return for more, and in order to know where to return to when it leaves, and it is now leaving the stand, it will mark the location by surrounding objects, precisely the same as it did when it first left the tree, but in so doing it has described so many circles, and gone so high in the air that we have lost sight of it, and have failed in getting a line. We must wait for its return. When that bee enters the tree it will tell others there that there is honey to be found, and they will come out in search of it. Not only so, but when it leaves it, it will tell with its wings in what direction it is found. You may blindfold an old experienced apiarian, Mr. Langstroth, for example, take him into a yard where bees are robbing, and he knows it at once by the "note" of the robbing bees. The note is very different, on a much higher key than that of bees at ordinary labor. The note of this bee is precisely the same. Other bees follow it, and if the tree is not too far off some of them will follow it to the stand. There it comes again, and two more with it. It has been gone only a short time; long enough, we think, to go about half a mile and return.

How long will it take a bee to fly half a mile? I am sorry I cannot answer your question. I have watched thousands of them, but have never timed it. When I am waiting for a bee to return, I am anxious, and want to be at work. The time then seems much longer than it really is, and if I should hazard a guess it might be far from correct. The time will vary too with the weather. A bee will go a mile and return sooner on a warm day than on a cool one, and sooner on a still day than on a windy one—all of which must be taken in account in guessing at distance. Our bee is going again and we must watch it. The location was marked the first time it left, this time it describes only a few circles before it leaves for home. There it goes, straight north, and we have the *line*.



We now know in what direction the bee tree is Our next business is to ascertain its exact location. We will leave some honey here for these bees to work at to keep them telling other bees at home that there is honey to be found until we have them at work in a new place. We will now take our "traps" and follow the line nearly half a mile to stand No. 2, where we proceed the same as at the first stand, and from which we soon have a line in the same direction north. Hundreds of bees are here now at work, and more coming. The tree cannot be far off. We might possibly find it to-day by following the line, and looking in the trees as we went. But we do not know exactly how far it is from us, and should probably look in a good many trees where there are no bees. Each would take up some time, and we have no time to spare. We can save time by lining them at a right angle, or nearly so, with the first one, showing us just where to look for the tree. If you will follow this line, I will follow the one from stand No. 3, and we will meet at the angle.

We have now been in the woods nearly two hours hunting bees, without having once looked in a tree for them. What have we been doing all this time? What have we accomplished? Let us see. When we commenced we knew there was a bee tree somewhere in this tract of timber. We had not the most remote idea as to its situation, but by getting bees at work in different places, and lining them from different points, we have not only ascertained what part of the woods the tree is in, but we have narrowed down and contracted its location to a compass so small that we have only a few trees to look in to find it. In fact, there is but one tree here, near where the two lines meet, that looks likely to have bees in, and that is this large oak by the side of which we are standing, and here they are. Our bee tree is found.

During the summer months bees are collecting honey from flowers, and except in a season of scarcity, or when it has been fed to them, they will not notice it elsewhere, neither will they come for smoke. At such season some other course must be taken to get them at work on it. I generally find some place where there are plenty of flowers in which bees are at work, and sprinkle thin diluted honey on all the flowers on a "patch" a rod square or larger, and place some honey in the comb near it. In two or three hours I will have bees at work in large numbers, the whole colony becomes aroused, going out in search of honey, and if I now leave it anywhere, on or near the line, they will soon find it.

J. H. Townley.

Parma, Mich.

[For the American Bee Journal.]

About Purity of Drones.

In an article headed "A Visit to Dzierzon;" written by Dr. Preuss, in the German Bienenzeitung, Vol. 27, page 6. I find the following interesting statement:—"Of such perfectly pure, *i. e.* without a single exception, golden-ringed worker bees, as I raised from a queen received from Dzierzon, I saw only a moderate number; and I am persuaded that Dzierzon ships only a small fraction of the queens reared by him. The price, too, in view of the great labor involved and the large sacrifice of honey required, is a very moderate one." On page 7, Dr. Preuss further says:—"We came to speak also about the origin of the drones, and I stated that the following fact had led me to very earnest reflection; a queen already referred to by me, procurred from Carlsmarkt [Dzierzon] produced besides the workers, the very prettiest drones—having without exception golden rings. She died after the lapse of two years. Her daughter, as she was undoubtedly pure, ought to have produced drones equally beautiful, whether fertilized by an Italian or a common drone. Yet this was by no means the case. The drones were black, and scarcely distinguishable from the German. The workers were hybrids." There is, I continued, "no doubt that an unimpregnated queen lays drone eggs. But it is a question whether the drones that have a fertilized queen for their mother, are not also produced by the influence of the father. I am aware of all that Von Berlepsch says on this point, who has likewise noticed the fact stated by me, that pure Italian queens frequently produce black drones, and explains it on the ground, that there is still remaining in them a fractional portion of black blood. I am also aware of the microscopic investigation made by Siebold and Leuckart, according to which spermatozoa are found only in the worker egg, and not in the drone egg. But such investigations are too subtle, stand too isolated, and require research." Dzierzon listened patiently, though I expressed doubt as to the general validity of his most important doctrine, and replied:—"I am regarded as an authority in bee science, but I by no means regard myself as infallible. One thing I have particularly remarked, that the constitution of the mother exerts in process of time, increased influence on her progeny. The pure Italian queen impregnated by a black drone, gradually produces more and more bees resembling herself."

I have translated these remarks to show that Dzierzon concedes that he might be mistaken in his celebrated theory, and that he did not find it policy to explain Dr. Preuss' statement, or could not do so. What happened to Dr. P. I have also experienced a number of times during the last six years. I look with much suspicion on queens whose drones are highly colored, particularly since I made my large importation of queens ditrect from Italy. Nearly all the queens I reared from mothers with highly colored drones, turned out hybrids, either in the first or the second generation, even if their workers and young queens were the prettiest I ever laid eyes on. I have further noticed, in numerous instances, that drones from pure mothers impregnated by black or impure drones, are higher colored than the drones of their mother queen. I long since became suspicious of the purity of those beautiful Italian queens bred from queens imported from Germany; and my suspicion has grown stronger every year for the last three years. Last summer I commenced experimenting in breeding queens, in a manner which I felt confident would enable me to prove that my suspicions are well-founded ; but owing to the great amount of work then pressing on me, I was unable to carry out those experiments fully. I shall resume them this summer, and then I shall undoubtedly be able to prosecute them to an issue.

As it is repeatedly claimed that queen breeders have succeeded in getting queens impregnated in confinement, while I have not been so lucky, I herewith call on those fortunate ones to aid me in experimenting, by taking drones from an unimpregnated queen for impregnation. I cannot, however, refrain from suggesting that the young queen should be kept in confinement from the moment she is hatched until she has actually commenced laying worker eggs; or that the wings of the queen should be clipped, after impregnation, so short that she will not undertake to leave the hive. If such a queen, thus impregnated by a drone from an unimpregnated queen, becomes capable of laying worker eggs, I think we shall have evidence against which no suspicion can be urged ; and I will then believe that the drones of an Italian queen impregnated by a black drone, are as pure as the drones of her mother ;—*but no sooner.*

The above remarks were written before I received the March number, of the Bee Journal, in which I found the interesting article of Mr. Miller on pages 206 and 207. As the queen to which Mr. Miller refers, was an impregnated fertile queen when she left me, and became drone laying by being chilled, she cannot be classed with unimpregnated drone-laying queens. I should be pleased if Mr. Miller would inform the readers of the Journal whether the drones from that queen were small or large drones.

I will answer some of Mr. Miller's queries.

To 1. The queen was doubtless chilled in the queen cage during the night following the day after she was introduced in the cage. Bees will in such cases, contract their cluster during the night, and expand it again next day, covering up and reviving the caged queen.

To 6. In and in breeding produces light colored peaceable bees.

To 7. As a rule, in and in bred bees are not good workers. If we find a high colored colony that is a really good productive stock, the queen is not perfectly pure. In breeding down one or two generations, the impurity will crop out.

A. Grimm.

Jefferson, Wis.

[For the American Bee Journal.]

All Drones alike Virile.

Mr. Editor :—I read in the report of the Cincinnati Convention, that Mr. Root advanced the idea that drones from a virgin or unfertilized queen are not capable of fertilizing queens, or of procreation. In 1864, I learned that they are ; and again, last spring, I had an opportunity of testing them. In December, 1869, I had a queen hatched in my cellar. By the 4th of April, I had drones flying, the progeny of this queen, and had queens fertilized by them. On the 26th of April I sent this queen, by mail, to Mr. John M. Follitt, Atkinson, Ills. He had then no Italian bees, and none were within nine miles of him. He reared drones from this queen, and had them mate with young black queens. The progeny of the black queens showed two and three yellow bands. From the above I do not think there is a particle of doubt on the subject. I also sent Mr. Follitt tested queens in June and July. I have so much faith in drones of this kind being virile, that I am now rearing drones from a virgin queen, and will have them hatched by the 25th of this month (March).—Some one made the inquiry in the Prairie Farmer last spring, as to whether drones from an unfertilized queen were capable of fertilizing queens. I do not remember to have seen any reply given. We should all strive for facts. My esteemed friend, Mr. Langstroth, in his valuable work on the "*Hive and Honey Bee,*" page 40, mentions having had a drone-laying queen fertilized after she had laid eggs. I would like to know if any of your readers have had a similar case.

Theo. G. McGaw.

Monmouth, Ills., March 10, 1871.

[For the American Bee Journal.]

The Cure of Foul Brood.

Mr. Editor :—I have had a number of letters inquiring about the permanency of the cure for foulbrood in my apiary ; and as the subject may be of interest to others of your readers, I will state to you the condition of my colonies that were diseased, and offer some suggestions not as a teacher, but as a student, for yet I am only a fellow-student in this disease.

On the 15th of December I put into my bee-house, with twelve healthy colonies, six of which were found diseased in the fall, but from which all trace of disease had been removed. One of these, No. 1, raised so much brood during the winter that it used up nearly all its stores, and I was obliged to transfer it to a hive with plenty of honey ; but in their old hive I could not find a trace of disease left behind. This hive had contracted the disease quite late in the fall, after honey had become scarce, consequently little or none was sealed in the presence of the disease. I shall introduce a swarm into the empty combs this summer.

No. 2 had the disease all summer, and consequently there was little honey sealed except in a contagious atmosphere. This colony also raised much brood during the winter ; but there were many cells with disease left. This I discovered in February. Then I purified with chloride of soda, exposed the whole hive to a temperature six degrees below zero, and sulphured. March 16th, there was evidently a return of the disease. I removed the bees to strengthen another colony, and reserved the combs for future experiments.

No. 3 lost its queen, and the bees were too few in number to experiment with. This hive I shall set aside after sulphuring, and introduce a colony this summer.

No. 4, with a fine queen, from its weakness raised no brood, and was transferred with its queen to No. 5. This hive is also reserved for future experiment, as soon as I get an extractor. These last two are very heavy and rich in stores.

Nos. 5 and 6 are strong, raising brood rapidly, and to all appearance perfectly healthy. Both of these contracted the disease quite late—one in September, probably the latter part; the other in August. There is no certainty but that the latter may still have diseased honey sealed up; though I think the other, No. 5, is safe. Hive No. 3 is reserved for the "time cure." Mr. Quinby says that exposure of hives to the inclemency of the winter months makes them safe for future use.* The question comes up whether it is not *time* instead of *weather* which cures. Certainly, freezing does not destroy the germs; and if it is at all akin to the epizootic disease, English authorities prove that the temperature of winter does not affect it.

Mr. Curtis, in vol. 6, page 11, says that he has the best success by removing the queen in its first stages, keeping the colony queenless from one to three months.† Here he evidently relies upon *time*. The natural life of the poison or germs may be six months or less. Would it not be well to test this point?

Nos. 2 and 4 are reserved for the following experiment.

Remove the honey with the extractor. Immerse the empty combs in a solution of common chloride of lime for a few hours, and then in a strong solution of chloride of sodium (common salt); after which rinse with clear cold water, dry, introduce a colony, and feed with the extracted honey, after it has been scalded.

If I should venture to make a rule from the few facts at hand, I should say that empty combs, or combs which can be emptied of putrid larva by the atomizer, or of honey by the extractor, can be thoroughly disinfected and safely used again. But that where there has been any honey sealed in the presence of the infection, the disease may return again within a limited time, say six months.

My two strongest colonies are those which I transferred from diseased hives last June, and fed with their own honey after it was scalded. If they had carried any disease with them, it would certainly have appeared before this.

I have no doubt but that Mr. Alley has the interest of his bee-keeping friends at heart; and he cannot too strongly caution them about this disease; but it is so much against my profession (whatever my practice may be) to cure the disease by killing the patient, that I shall adopt any method, no matter how tedious it may be, to restore my apiary to health. We cannot reasonably expect to perfect any treatment without numerous trials, defects and experiences; but I firmly believe the path which I am pursuing is the right one, although others may improve upon it, and point out a shorter road to success.

One word more in regard to chlorine. Our veterinary surgeon informs me that chlorine vapor is the *most* effectual remedy for epizootic apthæ. I have shut up in a hive chloride of lime for a few days, and, without further purification, introduced a healthy tone, without any subsequent appearance of disease. In Nos. 1 and 5, chloride of lime was introduced on the bottom board, after the spraying, without any ill effects so far as the bees were concerned, although in No. 5 the quantity was so large that the bees were paralyzed, and remained so for one or two hours before perfect recovery. It may be found that the vapor alone is sufficient for all practical purposes. E. P. ABBE.

New Bedford, Mass., March 17, 1871.

[For the American Bee Journal.]

Foulbrood.

I had supposed until last summer that we were beyond the reach of foulbrood, being so far not only west, but north. Summer before last we took four swarms to the woods to see if they would do better there. They gathered more honey, but got the foulbrood. We did not know it, however, and put them in my cellar with forty other swarms, piled up. Never having seen the enemy, and not expecting it, we did not know we had it till August, and by that time we had spread it through two-thirds of our stocks by changing combs and swarming.

The odor of one of the woods' swarms first awakened me to a suspicion, and a little examination and study of the authorities soon convinced me of my fate. Part of the bees belonged to a friend who works with me. We went to work, cut out the worst combs, and burned them; cleansed the hives, whitewashed them inside, and sprinkled them and their combs with copperas water, as a disinfectant. It served as a check, and some appeared to be cured; but many are still affected. Before putting them in winter-quarters in my bee-cellar (which I described in the Journal for March, 1870), I secured a few new hives, and put the swarms in as far as they would go. Then I cleansed the emptied ones, scalded, whitewashed, sulphured, and dried them, and so went through the yard. I put a stove in my cellar, and heated and dried it several days before putting away my bees, November 25th. It being a fine day yesterday, March 7th, I took out my bees a month earlier than usual, to cleanse the hives and the cellar. I built a fire on the cellar floor to heat and dry the cellar again. I shall cleanse the hives, and as soon as it turns cold, put back the bees till the willows blossom. I have tried this before; and they will be much more quiet and do better than out of doors. The bees appear to be well. There is no mould. There are no more dead bees than usual, and nearly every swarm has brood.

I have sent to Dr. Abbe for an atomizer, and we shall follow his directions in the spring. His method commends itself to us as rational; and we are very much obliged to him and the Bee Journal for their very prompt reports. Being a "country parson," I am not much troubled with gold; but I look at my yellow-banded bees with much of the feeling with which a miser looks at his gold. WM. GILL.

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* This is not in accordance with European experience.—ED.

† This is Dzierzon's method. The removal of the queen prevents the production of brood, and thus literally starves out the disease, when it has not yet reached its virulent and contagious stage.—ED.

River Falls, Wis.

[For the American Bee Journal.]

Rambling Notes and Comments.

MR. EDITOR:—Your welcome messenger, the March number of the Bee Journal, is received. First, it contains the report of the American Bee-keepers' Convention, at Cincinnati. No doubt many will read the proceedings with great interest. Then comes in our friend from New Jersey, with No. 2 of his experience in that State; and our friend from Maine gives us the methods of wintering practised by bee-keepers there. While it is known that there are from twelve to fifteen thousand bee-keepers there, it is stated that nine out of ten have not advanced beyond the old box hive. This is truly lamentable, at this late day. Where are the friends of the American Bee Journal? Had the bee-keepers there been a little more familiar with its teachings, the darkness and ignorance of this subject would long since have been numbered among the things that were.

Friend Curtis, too, from North Carolina, has given some good resolutions, if they are only put in practice. The Alsike clover spoken of will not only make there an Eldorado for bees, but for almost all kinds of stock. From our experience we would say, cultivate it largely. I think you never will regret it. Then comes in Novice, again hitting right and left, as usual; stirring up the ideas of many so-called bee-men. He touches brother Hazen softly; also mentions friends Gallup and Quinby, with regard to the melextractor, movable comb hives, &c. He also gives the queen nurseries a little rub. Well, Mr. Editor, I am a looker-on in this matter of improvements. I use such as, in my opinion, will meet the wants and wishes of the apiarian, at the least expense. There are now several hives before the public that are worthy of notice, and I am sure that it would not injure the reputation of the best man in America to use them. And here let me state one thing with regard to queen nurseries. I think I never saw but one in my life that I would use, yet there may be several very good ones. I have one manufactured by Dr. Jewel Davis, of Illinois, and if there was ever a success in improvement, I am sure this is one, and cannot fail to meet the wants of any and all candid and unselfish apiarians in the country. I am not in the habit of giving what some of my friends might call a puff, as I can tell you that I have no interest in any. But I never like to see improvements—and "improvements" they are—spoken of lightly. I have used one of the queen nurseries made by Dr. Davis, and if I could not get the same that would work as well, I would as soon think of keeping house without a cook stove. Every bee-keeper should have one or more of them in his apiary.

To-day, March 4th, the bees are flying finely; many of them are carrying pollen. This I saw them do on the 1st of January, though I never saw the like before in this country. Thus far, bees have wintered finely; never could they be in a finer condition than now. They went into winter quarters in a better state than before for many years. The honey was of the best quality and plenty of it. I have five stocks, as strong as any I ever saw, that were wintered on their summer stands, and only consumed of their stores up to the 3d of March, as follows: No. 1, 7 lbs. 4 oz.; No. 2, 8 lbs. 3 oz.; No. 3, 9 lbs. 3 oz.; No. 4, 9 lbs. 5 oz.; No. 5, 10 lbs. 2 oz. If the season should prove to be a good one, bees are in a fine condition to secure plentiful returns; but as I see many are breeding rapidly during this month, they will use more honey,—many flying out and returning, the consumption will, of course, be greater.

One thing more and I am done. I have been trying some of the patent honey comb foundations made by the editor of the American Bee Journal, samples of which were shown at Cincinnati, to the members of the late Bee-keepers' Convention. I placed a swarm in a cellar, and fed them. Thus far, they have lengthened the cells finely. They worked so nicely, that I was almost tempted to make an offer for this "Yankee" State. Should this invention be as successful as it now has the appearance of being, it must inevitably be the means of revolutionizing bee culture to a large extent. I shall keep watch and see who is the first man that will dare open his mouth or draw the pen and say, "infringement" upon this improvement. I shall try and experiment upon it, and report progress from time to time. Mr. Editor, please pardon me for taking this liberty without being asked; and also excuse this lengthy and hastily written article.

A. H. MOON.

Paw Paw, Mich., March 4, 1871.

[For the American Bee Journal.]

Experiments with Drones, Honey Boxes, Etc.

Early in the season of 1867, I selected a strong stock of black bees in a Flander's hive, and by exchanging cards removed all the drone combs from the breeding apartment, leaving no open space to rebuild any. As soon as white clover began to yield honey abundantly, I laid thin strips of board on top of the frames, leaving about one-fourth of the space open for the heat and the bees to ascend. Over this I inverted a plain bottomless box of the capacity of forty pounds. This the bees filled in about two weeks. On removing it, I found fully one-third of its contents to be sealed drone larvæ. I brushed out the bees and set the box in a cool cellar forty-eight hours, and then returned it to the bees; but as they did not carry out any dead drones next day, I took it off again that evening, and exposed it thoroughly to the fumes of the sulphur pit, and then returned it to the hive again. Next day still no dead drones were carried out; and in the evening I sliced off the caps from every cell, including the heads of the drones. On the following day they were carried out, and in a few days more the cells were filled with honey and sealed over.

In addition to the drone larvæ in the box, the bees managed to have drone larvæ in the hive also, for all practical purposes, having changed some cells and filled every possible crevice and corner. This stock swarmed. I also used some more of the same kind of boxes, placed in the same manner in other hives, in which I left three or four hundred scattering drone cells. The result was that on every stock that swarmed, the queen would lay more or less drone eggs in the boxes; but in stocks that did not swarm the queens laid no eggs in the boxes.

Although bees will collect more honey in large boxes than in small ones, boxes of the above-mentioned size should not be used unless provided with frames or guides of some kind, regularly spaced one and three-fourths ($1\frac{3}{4}$) or two (2) inches apart from centre to centre. Last season I used boxes that held over fifty pounds, having two tiers of frames (upper and lower) regularly spaced one and three-quarter ($1\frac{3}{4}$) inches apart from center to center. There was not an egg laid in any of these boxes. They worked to my entire satisfaction in all respects, were easily carried to market, and the honey sold readily at thirty (30) cents per pound. These frames are strong, and were returned to me when emptied, as I sold nothing but pure honey.

HENRY CRIST.

Lake, Stark Co., Ohio, March 8, 1871.

[For the American Bee Journal.]

Returning Late Swarms.

MR. EDITOR:—I would like to give to the readers of the Journal, my plan of disposing of late swarms of bees, hoping it may prove to be of as much benefit to some of them as it has been to me. Swarms that come off late in the season, generally render the old stock worthless for that season, so far as box honey is concerned, and usually failing themselves to get sufficient stores for wintering. In sections where basswood is abundant, and in seasons when it blossoms, bees can be returned to the parent stock, and thereby made to work in the right direction, In the summer of 1868, I had more swarming than I liked to see, for as fast as the swarms got into their boxes, and had them about half filled, they would swarm out and leave the stores unfit for market.

The thought then occurred to me that perhaps I could take the matter in hand, and by hiving them temporarily, and setting each swarm beside the stock it came from, and letting them go nicely to work for a day or two, and then returning them to the parent hive, they would perhaps be willing to stay there, and fill those boxes they had so disgracefully abandoned. The result was far better than I had hoped for. Of about thirty swarms that I returned, not one came off the second time, and the way the little fellows filled their boxes was not slow. Some swarms filled a set of boxes weighing forty-five pounds, in eight days after being returned. The plan worked well the first season; but the season of 1869, being so cold in this section, there did not seem to be any honey in the flowers, nor much of anything for the bees to do but swarm. Basswood failed to blossom entirely, and when I returned a swarm to its parent stock, it would be quite sure to come off the next day. Thus my plan of returning bees was a failure that season, with everything else in the bee line.

In the season of 1870, I concluded to try them again. So, on the first day of July, I commenced placing the young swarms beside the old stocks, for the purpose of returning. Basswood was just beginning to blossom, and I was in hopes to get those boxes filled, which they failed to fill the year before. I hived and returned about fifty swarms, All stayed, with the exception of two; one of these came off twice, and the other three times. Both of these killed the old queens, or they got lost or were killed in returning.

Many of the swarms were returned in twenty-four hours after hiving. In all cases I returned them whilst they were at work. They will build some comb, and the larger pieces will be partially filled with honey. These can be placed beside the hives, and the bees will carry the honey in. Then the combs can be taken away and used as guides for new boxes. Some of the combs will contain eggs; but I have never known a single instance where the bees nursed them in the boxes placed upon hives, when I had returned a swarm.

Bees should have ample room given them when they are returned. If their boxes are half, or nearly half filled, give them another set. Do not take the trouble to remove the queen cells, as I did the first that were put back. The bees will destroy them fast enough.

Bees treated in this way, when honey is abundant, are satisfied with their old homes; and the queen, after an absence of forty-eight hours, finds plenty of empty cells in which to deposit eggs, and they will go to work with more energy than ever. Novices' bees did, after he had taken the last drop of honey from them with the extractor.

In this section of country, the honey season generally closes, when basswood goes out of blossom, and but few swarms make their appearance after it has been in blossom eight or ten days. In the past season a shower of honey-dew, which lasted about three weeks, made its appearance in this section. Bees worked on it for two or three hours in the morning, in a perfect rush, and again in the afternoon, just before sunset. This dew was on the leaves of elm trees, as a general thing, or in the vicinity of elms. The leaves were perfectly covered with aphides of a light color; and they were constantly discharging this honey-dew. When upon the wing, it would fall on the grass and shrubs in the vicinity. Bees confined themselves to the trees on which it was most abundant. The color of the liquid they gathered was dark, somewhat darker than buckwheat honey.

J. BARBER.

Canton, N. Y.

[For the American Bee Journal.]

Early Swarming.

MR. EDITOR :—I have been for the past year a reader of your valuable Journal, from which I have gathered much information, particularly from the experience of others. As I am but a beginner in the science of bee keeping, I may be pardoned if I say, I have not been much benefited by the sharp shooting between the inventors of different hives. I am disposed to give Mr. Langstroth his just dues, and I am also willing that others should have theirs, if they honestly earn them, as he did.

Our bees, twenty-eight stands in number, came from the cellar in good condition, with the exception of one nucleus colony which was weak in numbers ; and also one black colony which had consumed all their stores. These we commenced feeding with a syrup composed of sugar and honey. On examining them some days ago, we found brood in all stages. We then gave them a full sash of honey, and thought them all right. The next morning, to our great surprise, they all left the hive, and after flying around in great confusion for some time, they clustered in front of a hive occupied by Italians, and commenced entering. Then began a terrible combat—the Italians determined to reject the intruders, and the blacks equally determined to force an entrance. Seeing there was no way to separate them, I sprinkled them with water rather strong with peppermint, and soon all fighting ceased. Finding the black queen, we destroyed her, and the bees united peaceably, making a *very strong* colony.

Only a few days after this occurred, we were informed by a gentleman, that a swarm of bees were clustered on the fence, a short distance from the house. In company with my brother, I proceeded to hive them. At first they entered the hive and seemed contented, but in a short time they rushed out again and clustered on a fence post. We then procured a sash of brood, which being placed in the hive, the bees gladly entered and were carried to the house. As they were strange bees, we knew nothing of their former condition, but found on examination, they were without a queen. They seemed quiet and contented till the afternoon of the second day, when they with one accord came pouring out and seemed determined to leave. As they were much scattered and flying high, I thought of Ignoramus's looking-glass, and tried the plan, as the sun was shining bright. It soon confused them, and they again returned to the hive. That evening we united them with our weak nucleus colony, which has a good Italian queen, and they are now working contentedly together.

I should like if some of your more experienced readers would give me the reason for such premature and wholesale swarming, so early in the season as the 30th of March and 2d of April.* At this date the bees are working industriously, gathering much pollen, and all the colonies have an abundance of brood.

MATTIE M. PASCHAL.

Pella, Iowa, April 8.

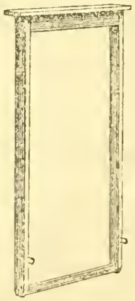
* These were doubtless "starvation swarms," with which the box and straw hive bee-men were and are oftentimes unpleasantly familiar in early spring.—ED.

[For the American Bee Journal.]

Frames of the Bay State Hive.

The Journal for March was duly received and contents digested. We intend to write an article for which we have no particular text ; and if we had, we might be tempted to run off the track, for the sake of hitting some one across the knuckles, as some of the correspondents have done in the last number of the Journal.

We judge that about fifty bee-keepers have written to us to know the dimensions of the frame we use in the Bay State Hive. We took a notion to go to Boston a few days since, and had a cut made of our style of frame. Somehow or other, we blundered into the office of M. M. Tidd, the artist who made the cuts for Mr. Langstroth's book, "The Hive and Honey Bee." Of course we found a man who understood his business. Well, after talking a while about the "King of Bees," as well as of queen bees, we struck a bargain to have a cut made of our style of frame, and now send it to the Journal.



I will describe it in the best manner I can. The part that I meant to make most conspicuous, however, shows the least. I refer to the bottom strip of the frame. Instead of nailing a piece to the bottom ends of the frame, as with the Langstroth frame, I use a piece ⅝ inch wide by ⅛ inch in thickness, and cut just long enough that it will rub down into the hive, but not go hard. The ends of the side pieces of frames are ¼ inch thick by ⅞ inch wide, and 17½ inches long. In the bottom end a groove is cut with a saw ⅝ inch deep by ⅛ inch wide, so as to let the thin strip in flush with the bottom ends of the frame. The bottom ends of the frame are made wedging so that they will slip down the little wire staples seen in the cut. The ends of the bottom strip project beyond the ends or sides of the frame, and have the corners cut off, so that they will not catch in the entrances of the surplus boxes when they are being taken out.

It might appear that so deep a frame could only be removed with difficulty; but this is not the case. The frames are arranged so that they cannot hang out of true at the top or bottom; and after they have been once removed, they can be handled as easily as the shallow frame. Well, we won't say much more about our hive now, but will say something about how our bees have wintered.

As it has been said that the Alley hive is not wintering well, I only desire room for the following letter: "You asked my opinion of your hive last fall. Not having tried it then in every respect, I could not say how I liked it. But now, having wintered seven swarms in them *with perfect success*, I can say that it cannot be improved for wintering bees on their summer stands. One swarm was a late second swarm, that did not fill more than one-third of the frames with combs. I had to feed them in the fall, but to-day they are flying lively and in good health; I simply put a quilt (Bickford style) on top of the frames, and no other *protection*, though the thermometer was at times as low as 18° below zero. S. C. WARE, *Towanda, Ills.*, March 2, 1871."

I have reports equally as favorable from other parties, but as this came to hand just as I was ready to mail this article, I concluded to send it as a sample of what we have on hand.

H. ALLEY.

Wenham, Mass., March 8, 1871.

[For the American Bee Journal.]

Bees in Alley Hives.

MR. EDITOR:—As others are giving their experience, I would like to say a few words in regard to the Alley hive which I purchased last spring. I put a swarm in it on June 10th, and they very soon filled all the frames in the body of the hive and began storing honey in the side boxes, and if the weather had not been extremely dry and hot, I think every surplus box would have been filled. As it was, I got sixty pounds of beautiful white honey, without a particle of bee bread in it, and plenty of honey in the frames to winter the stock. I noticed that the bottom boxes were all filled first.

I took off the honey board and placed a piece of old carpet on top, and around the sides I put some clean rags about the end of November. They are in fine condition at this time, having been on their summer stand all the winter. I think it a capital hive for wintering out doors, as the bees keep so quiet.

I have other kinds of hives, but so far the Alley hive pleases me best. I am only a young beginner, and am going to have another style of hive from a kind friend, who has promised to send me one this spring. I will report to you next fall how I succeed.

With best wishes for the success of the Bee Journal.

C. CHESTERMAN.

Dyersville, Iowa, March 17, 1871.

[For the American Bee Journal.]

Wintering Bees in the Bay State Hive.

MR. EDITOR:—My bees have wintered well. I have several stocks in old fashioned hives, and in them all the comb run from side to side, regardless of the "natural way," and the rear combs are filled with brood. A large portion of the bees in my Bay State and Langstroth hives, have clustered to the top of the frames, and above them, under the flannels all winter. I think they do better in the Bay State hive. I have thirteen of them and intend to make forty more. Mr. William Noyes, of Seabrook, N. H., has several kinds of hives. Among them are the Langstroth and Bay State. To the latter he gives the preference. I have seen in the Bay State the rear combs built first.

I have had several queens from Mr. Alley, and am satisfied with them. We like Mr. Alley to deal with, he suits us New England people—we being a little behind some of our western brethren. But, never mind, we say long live Mr. Alley, and may he meet with the success he justly merits.

BENJAMIN OSGOOD.

Amesbury, Mass., April 3, 1871.

[For the American Bee Journal.]

Bees in Alley Hives.

MR. EDITOR:—In the February number of your Journal, page 187, I see an article from the pen of our friend E. Gallup, in which he says that it is almost impossible to get the queen to breed in the rear frames of the Alley hive, and that it is the last frame that the bees fill. Now I have used the Alley hive two seasons, and in every case they filled the rear frame first, before they filled some of the front ones, and the queen laid readily in that comb. I have seen both sides of the rear comb filled with brood, while there was yet none in some of the front ones.

I was not aware that Mr. Gallup had used the Alley hive sufficient to express his opinion in such strong language, but I suppose that a man of his experience can decide as to the good qualities of a hive in one season, better than we lesser lights can in half a dozen.

My bees wintered finely on their summer stands, with the protection spoken of heretofore. They began to gather pollen on the 19th of March, and are breeding rapidly. Success to the Bee Journal.

A. GREEN.

Amesbury, Mass.

That the food or jelly administered by the bees to their larvæ "must be exceedingly nutritious, may be inferred from its very nature, consisting, as it does, of the virile, energetic, and fertilizing powder of plants in the concentration of their living principle."—SCHUCKARD.

That bees feel pain may be assumed from the evidence we have of their feeling pleasure.—SCHUCKARD.

[For the American Bee Journal.]

Hopes and Expectations.

MR. EDITOR :—I have been reading several stray numbers of the Bee Journal, and find that many of the persons who therein hold forth give a greenhorn a good deal of sound advice. I was raised among bees and bred on honey until the present time, and there are no indications at present of my appetite for honey failing this season.

Our apiary is about forty years old. I am grandson, and son of a bee keeper, and having been dyed in the wool, I am also a bee-keeper. Our apiary has been afflicted with many patent hives, and it is a wonder that they have survived, some of the outlandish things in which they have had the good nature to remain. I never progressed much in bee management until I devised a simple movable comb hive—a non-patented, non-reversible, revolvable, upside down bee hive.

I am now preparing to go it with my eye open to the science of the thing—movable combs, glass boxes, honey emptying machines, wax-extractors, Italian queens, &c., &c. If you, Mr. Editor should happen to hear of any grand improvement, please put a flea in my ear, and I will go for it (the improvement, not the flea).

I expect to whirl out tons of honey this summer. Each swarm ought to make about two hundred (200) pounds, providing the season is the best ever known. If I had time I would figure out the facts to your entire satisfaction. I could demonstrate it very easily if I was owner of a patent hive or moth trap ; but will have to forego the pleasure of astonishing your readers until some future time.

The last season was rather tough for our little pets. The drouth dried up everything in the form of honey. The poor suffering bees would hum around very anxiously, searching every plant and flower, far and near, and then return to their hive with a mere taste of honey, and looking as discouraged as a hen pecked husband. I admired their patience, however, under the circumstances, and in the fall rewarded their precious little gizzards with several doses of honey ; and during the winter I also passed around several sticks of candy among each community, and I believe the cute little fellows would just as lief pass the whole winter in sucking candy. My candy swarms are now just as lively as crickets, and waiting impatiently to gather tons of honey.

I wish to thank Mr. "Novice" for his elegant bee feeder and would willingly send him a few boxes of honey for his idea. It is just the handiest feeder in the world. It may interest you to know how I use it. In the spring I remove the cobs from the frames. (I always use cobs to absorb moisture,) and fit closely over the top of the frames a large piece of water-proof paper, cut a hole a little smaller than the feeder, directly over the cluster, and set the feeder over the hole. By this method, everything is kept neat and tidy.

In the proceedings of the Cincinnati Bee-keeper's Convention, I see that some of the wise heads that convened there, propose to make candy from mel-extracted honey. They did not give the process. I should like to know how the thing is accomplished. If the operation is "*not dangerous,*" I would like to experiment as to the profitableness of the process. If some of your unselfish correspondents, "Mr. Novice," for instance—would be so kind as to let the process be known, who knows but that great results would flow therefrom. Honey is getting to be so plentiful that every bee-keeper should carefully study the nature and the combination of its elements with other substances ; and perhaps something valuable would be the result of patient experiment.

Now, Mr. Editor, I will not further trespass on your valuable time and good nature. Should I discover anything new about honey or bees, I will give you the first imformation, wishing you success in bee and business matters.

SCIENTIFIC.

Hartford, N. Y., March 13, 1871.

[For the American Bee Journal.]

A Metallic Hive.

MR. EDITOR :—With your permission I will give the readers of the Journal a little sketch of my experiments with a metallic bee hive. In the first place I use the common hive, with the exception of a cap (or spare honey box), of the same dimensions as the hive, and of the same material. My bees are in log gums, square plank hives and sheet iron. The latter well painted in and out, and a thin coating of plaster inside. Before I put a swarm in them, I give them a thin coating of melted beeswax, using a ravelled rag for my brush.

My hives all stand in a row, under a cover of four feet boards, and on a flat stone, ten inches from the ground. There they stand, winter and summer.

It was four years last June since I first put bees into a metal hive, and I was thoroughly convinced *in one year* that they would prove to be moth proof; and I have seen nothing since to cause me to change my views. On the contrary, I have seen much to confirm my convictions ; having seen no sign of moths or their webs in the iron hives, whilst all the others were more or less injured, and in some the bees killed outright.

So much for facts (taking my word for it). Now for theory. First, it crosses the instinct of any insect to lay its eggs upon a mineral or metal. Second, it crosses the instinct of the moth to have no wood or something of a fibrous nature out of which to manufacture its web. And, third, the moth destroys the bees by fortifying itself against the attacks by webbing itself up.

I would like also to say wherein the metallic hive would be proof against foulbrood, but forbear.

A. F. COBB.

Chapel Hill, Mo., Feb. 14, 1871.

[For the American Bee Journal.]

Side Gathering Hives.

Mr. Editor :—I see in the Journal of February last, page 173, Novice fully endorses the side gathering of surplus honey, referring to Langstroth and all works copied from his, as evidence of his correctness. "From fifty to one hundred per cent. more surplus honey will be stored in the body of the hive than on the top in boxes."

I have been using the two-story Langstroth hive for a few years past, and find the statement of Novice correct. To get a large yield of honey we must turn them to side gathering hives, by bringing up a part of the combs, bees, and brood, to the upper chamber, and work the bees at the side of the brood in empty frames. But the thought presented itself about two years since that it would be better to increase the depth of the frames and the width of the hive, and thereby place the room of the second story on each side of the frames of a one story hive, for surplus. And it has proved true, for five "several reasons." First, I can place twelve six pound boxes inside of my hive, six on each side of the frames. Second, if we wish to ship honey in the frames, make the frames two inches less in depth, and the bees will cluster under the lower bars as they approximate the bottom of the hive, and the combs are fastened to the bottom bar as effectually as when in the upper story. Third, when we want to empty honey with the extractor, convenience presents itself at once. Fourth, when honey is being stored in the boxes, and the frames in the center of the hive gets too full of honey, so as to require emptying, to give the queen room to desposit eggs, so soon as the lid is removed we are at the frames, without having previously to remove half filled boxes and the honey board, which is a great inconvenience. Fifth, in the removal or exchange of queens, the removal of the lid lays the frames bare. The work is done without removing a box.

A. Salisbury.

Camargo, Ills.

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[For the American Bee Journal.]

Bees and Grapes.

On page 210 of the March number of the Bee Journal, Mr. J. L. Peabody wishes to know if bees injure grapes. Some eight or nine years ago I planted a small vineyard of three acres. While at work planting my vines, a friend came along and advised me to stop planting grape vines, as my bees would destroy all the grapes I could raise in the neighborhood, not to mention three acres. He figured up how many bees were in my apiary of a hundred hives, and supposed each bee would destroy one or more grapes per day, and thus made out that an enormous amount of grapes would be destroyed, in a month. I laughed at him and continued my planting, and can safely say that I have not had a bushel of grapes injured by bees, since they began to bear—five or six years ago.

Some years, when honey was scarce, the *wasps* would attack some few grapes; but the bees would drive them away, and then suck out the sweet. I have also had grapes in my garden for twenty years, within three rods of my bees, and before movable comb hives came in fashion. I had a bee-house and trained grape vines around and over it, to shade it, but I never knew the bees to injure the grapes.

I think the trouble with Mr. Peabody was in the grapes, and not in the bees. It is likely that his grapes had taken the "grape cholera," or some other disease, that caused them to burst open and gave the bees admission to the sweets.

H. Nesbit.

Cynthiana, Ky., March, 7, 1871.

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[For the American Bee Journal.]

Proper Size of Honey Jars.

Mr. Editor :—I see much said of the extracted honey; but the people will give little or no more for it than for strained honey. Now, what I wish to know is, how to put it up. I have put it in quart cans, in pint cans, and in half pint cans. When in quart cans, the buyers say they are too large; and when in half pint cans, too small. In pints some think them too large, and others too small. How shall they be made to suit? And what will extracted honey settle down at? How may it be kept from candying, and not change to a dark or slate color, by time?

I use a machine some, but would use it much more, if the honey would sell for what it is worth. But people are used to eating what their stomachs cannot digest, in the shape of wax, which even the strongest acids will not dissolve, instead of the pure honey as stored by the little bee.

Many persons want the honey in nice white comb. Now what is the empty comb worth to the bee-keeper? That is a point well worth considering. Will bee-keepers ascertain its value in their business, and then charge accordingly for honey in the comb? Then, and not till then, will machine rendered honey sell at a fair price. This is my view of the matter. Am I right? or if wrong, will some one kindly set me right.

J. H. Hadsell

Breesport, N. Y.

* * *

[For the American Bee Journal.]

Devices that are no Inventions.

Mr. Editor :—I am glad to see so many of your correspondents pitch into the humbugs called movable comb hives, which are neither more nor less than the Langstroth hive infringed on by some useless addition or change. I have five different kinds of patented hives in my apiary, and the Langstroth hive produces double the amount of surplus honey than any other I use. As for wintering bees in them, they are as good as any other. When left on their summer stands, I take off the boxes and cover the holes with corncobs, five or six deep, or old carpet, or old clothes, close the back entrance, and also the front, except about two inches. I have wintered my bees in this way three winters, and have not lost any yet. My bees swarm as early as those in the tall hives that Mr. H. A. King sends out here, with a marble finish on them. I wish Mr. Langstroth would clean out the whole of them. They are taking the bread out of his mouth. Because he is a poor man, and they know it, they have imposed on him. May he live long and enjoy good health, is my wish.

My bees commenced bringing in pollen on the 6th of March, from elm trees and soft maples. This is the earliest I ever saw them do so, in this section of country. We look for a good season here for surplus honey.

H. Faul.

Council Bluffs, Iowa, March 19, 1871.

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[For the American Bee Journal.]

A Lady Beginner's Report.

As I am a beginner in bee-culture, I will state to you in part my success.

I commenced last spring (1870) with seventeen stocks of bees. One of the number had an Italian queen, and two others hybrid queens. I had never opened a hive of bees, but with an assistant as inexperienced as myself, I determined to make the trial; so to work we went, with fear and trembling, lest we might make a mistake and the bees become enraged. But we succeeded, as we think, admirably. We found one stock queenless, with several others in almost a starving condition. We equalized them in honey and brood, and fed them Graham flour.

By the 10th of June most of the stocks were strong. We increased the number to thirty-three; then reared and successfully introduced eleven fertile queens. I have seven black queens left, and intend to get rid of them as soon as possible, as I believe the Italians are far superior to the black bees.

My Italians and hybrids did much better than the black bees, with just the same advantages. The hybrids are the crossest bees I have. I have sold $100 worth of honey and bees, and now have twenty-seven stocks in the cellar.

Feeling encouraged by my success last year, I intend making bee-culture something of a business. I use the Langstroth hive, made somewhat deeper than the ten sash hives, and holding nine sash.

I received the Bee Journal last year, sent to the address of my husband, and as I have received the last number due me, and cannot think of missing a single number, you will please find enclosed two dollars, which will secure its welcome visits another year.

Mrs. K. A. D. Morgan.

Pella, Iowa, March 9, 1871.

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The bee gives us honey, and we give the wasp *whacks* when we catch him.

[For the American Bee Journal.]

Surplus Honey Boxes.—Large boxes vs. Small.

Mr. Editor:—We would like to agitate this question—would it or would it not be better for apiarians to have their honey stored generally in large boxes? We learn from nearly all to whom we have put the question, that a strong swarm will fill a ten or fifteen pound box nearly as soon as they will fill a six pound box. If such be the case, the large box is the one to use, to gather the most number of pounds.

Now let us see about the demand and price of the respective boxes.

Small dealers in honey generally prefer to have small boxes, which save the trouble of cutting it as it is sold; and they are naturally willing to pay more for it in that shape. But if apiarians can dispose of their large boxes at the same price, per pound, and can sell all they can have stored, with as little trouble as their small boxes, it seems to us that it would be better to use the large boxes generally.

Our experience the past season has been that, while we always had a fair supply of small caps, we were short of large caps three-fourths of the time.

We would say to apiarians that we will contract for any amount up to *one hundred* tons of white honey in *large caps* or *frames* of any size, so that they are not over seven inches deep, to be sold net weight, and to be delivered as early in the season as will be convenient to the shipper. We believe that this matter is of as much importance to the honey raising community as to ourselves.

To those who have no knowledge of us, we will say that we started business in 1865, as *Honey Merchants* exclusively, in Cincinnati, Ohio, and have since extended our business westward to St. Louis, Mo.; northward to Chicago, Ills., where we now have our head quarters for the west, and eastward as far as Pittsburgh, Pa. We have labored hard to make honey a *standard commodity* in these cities; and the fact of our having handled nearly two hundred tons the past two years, proves our success.

We have permission to refer to a number of Bankers and Merchants, east and west, and the principal apiarians in the west, whose names we will be happy to furnish to those desiring them.

C. O. Perrine & Co.

Chicago, Ills.

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[For the American Bee Journal.]

Save the Queens.

Bees should not be allowed to supersede or destroy a good queen, which they sometimes do in some of our most valuable stock hives, when very rich in stores, and more especially when flowers are abundant. Why?

In some stocks deficient in stores, and when no feed is to be obtained, they persevere until the queen is renewed, if allowed by the keeper. Why?

In extra strong stocks, made so by an extra prolific queen, the bees renew their queen. Why?

In introducing queens it is not always a perfect success, though she may be accepted for the time. After a few eggs are laid, the bees start cells several times after being destroyed by the keeper; and less and less eggs are laid by said queen until finally she is *non-est.*

If cells are started, remove the queen and build her up a stock with brood combs and bees, and generally she proves her good qualities after being fed by her adopted stock, or her own bees.

If bees swarm and are put back, or the queen gets frightened or refuses to go with the swarm, or falls down with the burthen of her eggs, thereby proving her to be an extra prolific queen, the bees will generally persevere until she is killed, or a young swarm is sent off, and the queen is generally lost in the melee. I have saved such queens two years in good condition, and it may be done longer. Give them room to lay, or rest, as the case requires.

Robber bees may enter some stock, attack the queen, or change her scent or deportment, so as to frighten her bees and induce them to start queen cells.

A queen may acquire an offensive odor from being taken in the hand, or by picking her off one comb and placing her on another; and the bees will start cells to replace her. Is there any better way to save such queens than to remove them?

J. M. Marvin.

St. Charles, Ills.

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[For the American Bee Journal.]

Raising Queens.

At the request of a correspondent, I give a few words about using the nucleus hive, described in the Bee Journal of October, 1870.

All that is wanted is in some way to get in each compartment a frame of comb with bees, and a sealed queen cell taken from a full hive.

When the time comes for raising queens, select a hive to be used for that purpose; find the queen, and put the frame she is on, together with the adhering bees, in one compartment of your nucleus hive. This, of course, leaves the hive from which the queen was taken (which we will call hive A,) queenless, and the bees will immediately go to raising queens.

In about ten days queen cells will be sealed over, when a frame containing one or more queen cells may be put in each compartment of the nucleus hive, together with the adhering bees; and the bees from another frame may also be brushed into each compartment, and the frame returned to hive A. If hive A has been flourishing, so that it contains a good many young bees, your nuclei will need no further attention. All the older bees will fly back to hive A; and if there be only a few bees in the nucleus, it may be well to fasten them in for a couple of days when the nucleus is first formed. Frequently the queen cells will be all found on one or two frames, and in that case, a cell should be cut out for each nucleus that lacks one.

The queen that was taken from hive A and put in the nucleus hive, may now be returned to hive A; and as soon as the frame from which she was just taken in the nucleus hive, has queen cells started on it, insert a sealed queen cell. If the queen cell is inserted when the queen is first removed, the bees will destroy it. The bees in hive A will accept their queen without caging.

If, however, you wish to raise more queen cells, instead of returning the queen to hive A, take a frame of comb from hive A, brushing off the bees, and after taking the frame containing the queen out of the nucleus hive, insert this empty frame in the nucleus hive, and brush the queen and bees down upon it. The frame you have now removed the bees and queen from, will of course contain eggs and larvæ. Put it into hive A, and the bees will immediately start queen cells on it. These cells, as soon as sealed, may be given to any of the nuclei, which have failed to raise a queen.

You may commence operations for raising queens as soon as drones appear, or as soon as drone brood is sealed over, probably about the first of May, in the Middle States.

As often as a queen is removed from a nucleus, give it a queen cell, and let the bees raise another queen. Your nuclei will raise queens by simply giving them young brood; but unless they are quite strong, you had better give them sealed queen cells from a full hive.

In the matter of

ARTIFICIAL SWARMING.

I generally adopt a plan that I learned, I think, from Mr. R. C. Otis. Suppose you have two hives, No. 1 and No. 2, both strong, and an empty hive, No. 3.

From No. 1, take frame after frame, brushing back *all* the bees into the hive, until only two or three frames are left; and as fast as the frames are emptied of bees put them in No. 3. Fill up the vacancies in both hives with empty combs or frames.

Remove No. 2 to a new location, and set No. 3 in its place. The returning bees from No. 2 will supply No. 3 with a good colony and will raise a queen; but it will save time if you furnish them with a fertile queen from a nucleus. To do this, as soon as No. 3 has started queen cells, which will be in two or three days, simply put in the queen at the top of the hive, or at the entrance, without caging or any precaution whatever. I have not yet found an exception to the rule that *a queenless colony which has queen cells started will readily accept any queen, fertile or unfertile.*

I am asked whether the Peabody melextractor will suit any but the Langstroth frames. I think it will suit any frame in use, but I have never tried it with any but two kinds.

C. C. Miller.

Marengo, Ills., Feb., 1871.

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Water is absolutely indispensable to bees when building comb, or raising brood.

[For the American Bee Journal.]

Fertilizing Italian Queen Bees.

There have been quite a number of ways given to secure the pure fertilization of queens in confinement, yet there are very few persons who appear to have any success. I have a neighbor, with whom I became acquainted last fall, who says he has not failed once in getting queens fertilized by drones from any stock he may select. He showed me two queens which had been fertilized, that had no wings, but merely small rudimental bunches where the wings should have been. I was very busy at the time, and it being then late in the season, I did not try it, but intend to test it thoroughly the coming season. He said he had tried many different ways to get queens fertilized by Italian drones, and had at last found one by which he always had good success, having never failed when he tried it in a full stock of bees.

He selects a stock with plenty of the best drones, and sets it fifteen or twenty rods from any other stock, and as soon as the queen hatches, he clips one wing. He then raises a bed of saw dust three or four feet square, lays thereon a good broad bottom board, and sets the hive on it, so that the queen can crawl back when she comes out. He has tried queens in this way for three seasons, and they are all very prolific. A queen can be introduced from any stock, and in and in breeding thus prevented.

G. M. DOODLITTLE.

Borodino, N. Y., March 11, 1871.

☞ It seems to us that the process above mentioned is more likely to be uniformly successful than any other yet suggested or tried.—ED.

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[For the American Bee Journal.]

Fertilization with select Drones.

When a safe and sure method to secure the fertilization of queens with select drones in confinement is devised, the inventor will deserve the same honors now conferred on Langstroth for his invention of the movable frame hives. There are parties now claiming to have made such discoveries, but, whether such claims are *valid*, remains to be tested. I could heartily wish they were, but I rather fear the statements are exaggerated. At least, until I can succeed myself with their methods, I will not credit such statements as have appeared at different times in the Journals, as being successful in *every* case.

I will give my experience the past season, with their various methods, as I found them described. I hope other writers for the Journal will also give nothing but the plain, naked, and unvarnished *facts*, and on both sides, the dark as well as the bright.

Early in the spring I received Dr. Jewel Davis' circular—Queen Nursery; but as it was not in connection with a method of fertilization, and as I could never get bees to accept an unimpregnated queen, I thought I would wait until others tried it. If friend Davis had sent me one on trial, I would have given it a *faithful* one.

I prepared a number of cages on Mitchel's plan, described by him in his paper—expecting to be sure of success, as he told us we wouldn't fail but *one* time out of *ten*. Well, my experience went the other way, for I didn't succeed *one* time in *ten*. I also prepared several other methods, such as honey caps, 3 x 4 x 6—the ends, bottom, and top, wood; wire cloth on one side, and glass on the other; and three one inch holes in the bottom, covered with wire cloth. Also, a number of small cages, two inches by three, fastened to a board an inch and a half wide and a fourth of an inch thick, fitted in the hive in place of a frame. These were for cells to hatch in; but every queen died before she was five days old, although each cage had sealed honey in old comb. The other cages I tried in almost every conceivable way—inside of the hive, on the top, in dark rooms, some with workers, and some without, until I became sick of losing so many valuable queens. I failed in every instance, except two or three, which I will describe and leave to the readers of the Journal to say whether I was successful. The first was with one of the first queens raised, a beautiful and lively queen, but with no wings. The weather being very rainy for several days, with no signs of clearing off, I put her in the fertilizing cage on the morning of the fifth day, with eight selected drones. Then put the cage down into her stand (a full stand). In noticing her a while after, say about one o'clock, on raising the cage to the light, she made several attempts to fly in the cage, and hopped on the back of a drone and stuck fast. Here I was compelled to close up, by the falling rain. Next day, I noticed a dead drone. Queen all right I thought I would follow out Mitchel's directions of forty-eight hours. Well, what did I find at the end of the forty-eight hours? Two dead drones, and a dead queen besmeared in honey that had dripped on the bottom.

The next one in which I think I succeeded, is this. I put three queens, just hatched, in three of the small boxes above described, with about one hundred workers in each. These I put in a dark room until the fifth day, when I took out all but five workers and then put five drones in each. These drones were so selected at one o'clock, just as they were leaving the hive, put in boxes back into the dark room (which was also warm) for thirty-six hours; at the end of which time there two dead queens, and from one to three dead drones, in each. I immediately introduced the living queen, by means of tobacco smoke, in a nucleus that had been queenless for five days, and on the second day she was laying. I was either successful in this case, or the queen came out and met a drone the same day that I introduced her in the nucleus.

In my correspondence with D. L. Adair, I told him I had failed with Mitchel's plan. He answered that he had too, but that he had no trouble with one of his own; and that if I would try it, according to his directions, he would send me one. I wrote, and got one in due time. I thought it a very ingenious device, and that it would prove successful. I immediately transferred bees and comb to it, sent for select drones to friend Nesbit, as I feared all my best ones were killed off—which fear proved to be groundless, for I had drones the first week in January, and probably have some now. Well, friend Nesbit's drones came, just as the queen was two days old. By the way, I was careful not to have a single drone in the nucleus when transferred. I now put on the fertilizer, adjusted the entrance so that a worker could just *squeeze through*, then put in the drones, which were besmeared with honey as I took them out of the transporting box. The bees immediately commenced licking them off, and they were received all right. On the third day after, I saw a dead drone. By the way, Mr. Adair says the queen will fly against the glass, whenever the cover is lifted off; but I could never see her do so. On the 9th or 10th day of the queen's age she was laying. I thought I was positively sure I had succeeded this time and the next; but the third trial puzzled me. I believe the third trial was made as carefully as the first two, and I thought I had the same success, until the young bees began to emerge from the cells—sheer hybrids. Now how this happened I am unable to say, unless the queen got out at the entrance, as the workers did, and met a black drone.

Hurrah for *Novice*. He has gone to the camp to make maple sugar, with all his bees; and is going to tell us how to put our bees at it free of charge! *Well, all right!*

R. M. Argo.

Lowell, Ky., Feb. 11, 1871.

[For the American Bee Journal.]

New Process of non-flying Fertilization of Queen Bees.

Mr. Editor:—When last in Washington, you showed me a letter from one of your correspondents describing what he conceived to be a successful method of non-flying fertilization of queen bees, as devised and employed by one of his neighbors. It seems to me that his plan, or something akin to it, promises more success than any one hitherto devised, as it seems to be almost perfectly in accordance with the instincts of the drones and queens. He says that if a hive set on a mound of sawdust, some three feet wide and two feet high, the young queen, with her wings clipped, when she comes out to meet the drones, is easily seen by them and speedily fertilized. When the queen is confined with the drones, both queens and drones are in an unnatural position, and seem to exert most of their energies in trying to escape. But by the plan mentioned by your correspondent, the queen comes out at the proper season, just as though she were capable of flying. The drones are in full flight, leaving the hive and returning to it. Being elevated above the surface of the mound upon some light substance, she is quickly seen by them, and it seems altogether probable that, in most instances, fertilization will take place and the queen return to her hive. When young queens, whose wings are imperfect, come out in the ordinary way, they fall upon the grass or ground, and are not in a position to be noticed by the drones.

I shall give this plan a full trial the present season, and hope that many of our correspondents will do so also. If it is found to answer, it could easily be modified so as to be made serviceable on a large scale. I do not suppose that there is any peculiar virtue in sawdust, except that being light and elevated, the queen is seen to advantage by the drones. Perhaps a platform over which cotton cloth is stretched, might be found to answer even better than a mound of sawdust. The hive containing drones might, from time to time, be supplied with hatching drone brood from our choicest queens. Entrances might be made on all sides of this hive, and nuclei might easily be placed in position on different sides, so that drones entering and leaving on all sides, would see the queens from the different nuclei. The expert will easily understand how, by small boards, these nuclei may be so separated from each other that the queens will be almost sure to return to their proper colonies. Should there be danger of the queens crawling over these boards, by rubbing their surfaces with chalk, they would be unable to do so. As soon as the queen of any nucleus is known to be fertilized, she might be removed, and a nearly matured queen cell, or a just hatched queen, put in her place. In this way a few colonies separated a few rods from the main apiary, and containing the drones from which we wish to breed, might be made to serve for a very large number of nuclei. It is only within a few years that the necessity for non-flying fertilization has been felt, and sooner or later unquestionably some practicable method for accomplishing it will be devised.

L. L. Langstroth.

Oxford, Ohio, April 13, 1871.

[For the American Bee Journal.]

Natural and Forced Queens.

I watched the discussion of this subject in the Bee Journal for some time, with quite an interest; but, after hearing both sides of the question, I am left to do as I always have done in the propagation of queens. I have been propagating queens for several years, for my own use and the public as called for, but not making it a speciality. I received my first instructions from Rev. L. L. Langstroth, and always rear my royal cells in strong colonies, and from the egg or larva just hatched—feeding the colony with sugar syrup every evening when forage is not abundant. In regard to the longevity and fertility of such queens, I have found no difficulty.

With the introduction of the Italian bee, some years since, in my apiary, I commenced raising queens, and in a short time my bees appeared as though making an effort to overstock my apiary, which never occurred while operating with the black bee, and under the old system of natural, hardy, and prolific queens.

My attention was never called to the speedy mortality of forced queens, until drawn to it by the articles in the BEE JOURNAL. True, out of a hundred or more colonies, I would occasionally lose a queen under a year old; but I thought, and yet think, it to be only incidental mortality, which holds a sway over all animated nature, leveling in the dust the infant of days, as well as the man with hoary locks.

Queens reared from larvæ too far advanced towards the chrysalis state, are worthless. How many days old the larvæ may be and yet make good queens. I am unprepared to say, but suppose they should not be over three days old. In the summer of 1867, I gave to bees in a nucleus, eggs fresh laid from which to propagate a queen, but saw no signs of a royal cell until the tenth day, when one was just started. When the queen hatched, the only perceivable difference from a worker was in the taper of the body and the shape of her head. She never laid any eggs, but soon disappeared from the nucleus. As a general rule, all feeble queens at hatching, and that do not lay eggs the first week after copulation, should be discarded; but in very early spring or late fall, this rule will not hold good. To develop large and healthy queens, rear the royal cells in a hive crowded with bees. It is not necessary that the hive should be of full size, so it holds three or four frames of the size used in the apiary. Never remove the cell to a smaller nucleus, unless crowded with bees, until two or three days before the time to hatch. When about maturity, they are harder to chill, and hatch out stronger, than if removed earlier to more feeble swarms. To know when to remove the cells, you must know whether you introduced eggs or larvæ. If larvæ, then their age, as queens, will hatch in sixteen days from the egg, and sometimes sooner, in very warm weather, with good forage. When larvæ are used, examine if there are any advanced grubs. If so, destroy them, by inserting a small stick into the cell, sufficiently hard.

It is a fact known to some, and probably many leading bee keepers, that when forage is right and the atmosphere warm and damp, Italian bees in large apiaries will swarm off by the dozen swarms per day, leaving no preparations for royal cells. But I never discovered that forced queens under such circumstances were less prolific or shorter lived, than under other circumstances. Yet it may possibly be so, though not very probable.

A. SALISBURY

Camargo, Il's.

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[For the American Bee Journal.]

Transferring Bees.

I have had some experience in transferring bees from box hives to those having movable combs, and think my experience may benefit some of the readers of the Journal. I have transferred bees in June, October, November and March. The time recommended by most writers is when the apple trees are in bloom, but my experience proves that March is a better time than later in the season. At that time there is little brood in the combs, and the bees may be transferred with little disturbance to breeding operations; and then, when the breeding season has fully come, they are ready, without further hinderance, to proceed with their work. I have four stocks that I transferred early in the present month, and they are all doing well. I opened one of the hives yesterday, and found sheets of comb nearly full of brood from top to bottom.

There is a prevalent opinion that bees must secrete wax in order that they may repair the combs and attach them to the frames; but this is a mistake. Whoever will examine the repairs they make, will find that the wax used is taken from the combs repaired, as the new work is of the exact color and quality of the comb repaired or attached to the frames. Combs put into frames in March, when no wax was being secreted, were securely fastened in a few days, so that the sticks by which they were secured in position could be removed.

There are only two dangers in transferring thus early—robbers and loss of queens. I have had no trouble on these accounts. Robbers indeed made a brief attack, but by contracting the entrance to the new hive, the bees defended themselves with so much vigor that the robbers soon gave up the attempt. I cut the combs out of the old hives without first driving the bees out into a driving box. By using care, only a few bees were killed, and in every case, the queen was found to have escaped unhurt. I have transferred thirteen colonies, and have never lost a queen yet.

The stocks transferred in October and November wintered well, and are in fine condition this spring, except one that, by being neglected a little too long, starved to death. I put three weak colonies together, and when they were united in (October) they had not more than four pounds of honey. These I wintered on sugar syrup, and they are now doing well, and promise to repay with interest all the care they have received.

In a future number I may give my method of transferring bees to movable comb-hives, with such directions as will enable any one of ordinary skill to perform the operation without difficulty.

M. MAHIN.

New Castle, Ind., March 23d, 1871.

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As the sun sinks his broad disk below the horrizon, to rise with new lustre—his rays leaping over the mountains; so the busy bee, excluded by the twilight, rushes forth at early dawn on buoyant wings, and from every floral cup sips the nectar of heaven, which darkness hid.

A. SALISBURY.

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The entire economy of the hive seems to emanate exclusively from the two most prominent attributes of instinct, that of self-preservation, and that other more important axis of the vast wheel of creation, the secured perpetuation of the kind by the conservative and absorbing love of offspring.—SCHUCKARD.

THE AMERICAN BEE JOURNAL.

Washington, May, 1871.

☞ The issue of the April number of the Journal was delayed several days by untoward occurrences and vexatious disappointments, to which, as we could neither prevent nor control them, we had to submit "with the better fortitude of patience."

☞ We are indebted to the Hon. Horace Capron, Commissioner of Agriculture, for a package of choice vegetable and flower seeds, grown in France expressly for the Department—whereof we shall endeavor to make good use, and for which we tender thanks.

☞ Mr. King intimates to us that he "may conclude to accept" the offer of space in the Journal, "to reply to articles in the April number." Should he decide to do so, we trust the reply will be furnished in season for our next issue. Under present arrangements for printing the Journal, articles intended for any particular number, should be in our hand not later than on the 10th of the preceding month.

☞ Ther eport of the proceedings of the second annual meeting of the North Eastern Beekeepers' Association, held at Albany, N. Y., on the 15th of March, reached us too late for insertion in this number. We shall find room for it in our next.

☞ We have on hand a large number of communications from valued contributors, which shall have due attention as early as practicable. Even with the aid of small type we cannot always crowd in all the articles for which we desire to make room, though we give monthly nearly three times as much *bee matter* as any other paper, by actual measurement, and the quality of which, we conceive, squares well with the quantity.

☞ The communication on Italian bees, from the pen of Mr. Gravenhorst, of Brunswick, will, of course, arrest the attention of breeders and bee culturists. The writer is an experienced and successful apiarian and a careful observer, who, reading English familiarly, is well informed of the state and progress of bee culture not only in Europe but in this country likewise—knowing, from their writings, who are the prominent beekeepers here. It is, in fact, through the American Bee Journal, that many of our contributors are rapidly acquiring a European reputation. We find their articles frequently referred to, and many of them translated, in the Bee Journals of Germany, France and Italy, and favorably noticed in the agricultural and horticultural papers of Great Britain and Ireland.

☞ We request the attention of beekeepers who design to import Italian queen bees this season, to the advertisement of Messrs. G. Neighbor & Son, contained in this number of the Journal. It is an old established London house, thoroughly trustworthy. Mr. Edward Uhle, also, from whom queens ordered, will be procured, has had much experience as a breeder. The Baron of Berlepsch, in the new edition of his work on "Bees and Bee Culture, speaks of Mr. Uhle as one of the most intelligent and best qualified practical beekeepers in Europe.

The Queen Castle.

After our notice and description of this new contrivance had gone to press, we received the inventor's further account of it. He now substitutes sheets of perforated tin in place of the wire gauze for the sides of the castle, which are thus made more stanch, equally serviceable, and it is said cost less. Those who test this implement should be careful to have it properly made, in accordance with the inventor's description or idea. Failure with one differently constructed furnishes no argument against the genuine article, which is still spoken of abroad as being used with uniform success. Devices in the use of which success is the exception, are not the things we want; but where failure is the exception we may at least hope to be on the true track.

The queen castle has now been in use nearly three years in Europe, and we have *not heard* of a single failure there to accomplish the desired object. There may have been such, but, if so, they have not yet been reported, and this, after such a lapse of time, argues favorably. The chief reason for confidently looking for gratifying results from the employment of this device, is said to be, that the queen and her companions, placed therein, do not seem to be conscious of being in confinement, and deport themselves accordingly; nor do the bees of the colony under treatment appear to regard or treat the queen thus placed among them, as a stranger and a prisoner. What other matter is involved in the "philosophy" of the process that should always insure success, has not been specified, and we shall not even undertake to surmise in advance—leaving that to be speculated about when the *facts* are ascertained, if there be then room for speculation, or speculation be desirable. It was only after the application of the balance, that the Fellows of the Royal Society of England *knew* whether a basin of water weighed more after a fish was put in than it did before. At least so goes the story.

Dr. Dönhoff, of Rhenish Prussia, whose highly interesting and instructive experiments and observations on bees constituted a prominent feature of the Bienenzeitung ten or twelve years ago, but who subsequently became otherwise engaged, has assured the Baron of Berlepsch that he intends to resume his investigations and renew his correspondence.

Amount of honey imported into the United States, in the last three years, with the duty paid thereon, at the rate of twenty cents per gallon.

Year.	Quantity.	Value.	Duty.
1868	130,609	$71,899 90	$26,121 80
1869	140,596	78,639 85	28,119 20
1870	112,438	68,482 30	22,487 60

CORRESPONDENCE OF THE BEE JOURNAL.

BRUNSWICK, GERMANY, February 2, 1871.—We have had a very poor winter here for our bees. They have not been able to fly out since the beginning of December, and have thus been unable to discharge their fæces for nearly eight weeks. In January the temperature was at 12 degrees below zero. In these circumstances many colonies have already perished, and we are uneasy as regards the fate of those yet surviving.—C. F. H. GRAVENHOST.

SILVER CREEK, MINN., March 8.—Mr. W. H. Cutting, in this town, bought one swarm of bees last spring. From it he obtained one new swarm, and sixty (60) pounds of honey from the old, and thirty (30) pounds of box honey from the new swarm. Total, one swarm and ninety pounds of honey.—S. ROWELL.

BORODINO, N. Y., March 11.—My bees have wintered in the very best condition. They were weighed on the 9th of November, and put in winter quarters soon afterwards. I set them out on the 9th of March, and found by weighing that they had consumed on an average, a little less than four pounds of honey, or a little less than a pound per month, each hive. I found brood, (much to my surprise, considering the amount of honey they had consumed,) in three or four frames, in nearly every hive, and young bees, just hatched, quite plenty. The weather here is very warm for the time of year, the thermometer standing at from 85 to 90 degrees in the sun. My pure Italians seemed to be more quiet during the winter than either the hybrids or blacks, and consumed less honey. I have queens that produced workers which show the fourth yellow band, Mr. Alley to the contrary notwithstanding.—G. M. DOOLITTLE.

LE CLAIRE, IOWA, March 15.—This is the first day this spring that the bees worked on soft maple a rye meal.—G. L. GAST.

BEARDSTOWN, ILLS., March 15.—My bees did not do well last year. I wintered 175 colonies, some of them weak.—J. F. PAPPMEIER.

ALLENSVILLE, KY., March 15.—The Journal is indispensable to all profitable bee raising. My bees have passed the winter well, and have been carrying in pollen rapidly since the 20th of February. The last season was very good here, from the 20th of May to the 10th of June. White clover is our sole dependence for honey. True, we have fruit blossoms which help us along some, but our reliance is on clover.—J. H. JOHNSON.

WILLOW BRANCH, IND., March 18.—My bees are all right so far, breeding finely and doing well. I can hardly wait from one month until the next for the Journal.—JONATHAN SMITH.

NORTH CHILI, N. Y., March 18.—I have ten swarms of black bees, which paid well during last season, and I now propose to go in and win; that is, I shall Italianize and use all means for success. I think one of the needed appliances in such a case is the Journal.—JAMES NEEL.

MADISON STATION, TENN., March 20.—The spring has been very favorable for bees here, and the little fellows are having a glorious time now, gathering honey from the peach, plum, pear, and red bud. If the weather continues as favorable as it has been, swarms will be ready to come out by the first of April.—S. S. HALL.

EAST TILTON, N. H., March 20.—Last season was a very discouraging one for bee business in this vicinity. A severe and protracted drouth was the cause. This winter has been a very remarkably open and changeable one, snow disappearing nearly two months earlier than in the generality of seasons. There was nothing like it within the recollection of the oldest inhabitant. Bees were set out on their summer stands from two to four weeks earlier than usual; but very few days have been warm enough yet for them to fly freely. Taking into consideration that we shall have fully one month or more, before the first blossoms will appear, I apprehend a trying time for the bees this spring. A year ago, I opened with seven stocks, increased to fifteen. Did not get a pound of surplus honey, and had to feed from seventy-five to one hundred pounds of sugar syrup to winter through. Set out the fifteen stocks about a fortnight ago. One stock has "gone up" already. Bee fever very sensibly abating, though still hoping for a little luck this year. I like the Journal, and cannot do without it, as long as I try luck on bees. Wish it came oftener.—J. B. R. SANBORN.

GHENT, OHIO, March 20.—Bees came out of their winter quarters in first rate condition, and we out here must have the Old Reliable, if it is to be had. It beats all what lots of pollen have been carried in the hives for three or four days past, for this season of the year, in our section of country. If the season continues as favorable as it has begun, we may expect early swarms.—T. PEARSON.

ALLEN P. O., IND., March 26.—I have seventy stands of bees, all in good condition, except three or four that are weak. They were wintered on their summer stands.—W. A. HORTON.

COMERSVILLE, TENN., March 28.—My bees are doing fine thus far this season. They commenced work about the 20th of February and have worked on up to this time. I saw newly hatched bees flying on the 10th of March. I have about eighty hives, and have lost only one since last fall, and it was queenless.—J. F. LOVE.

GONZALES, TEXAS, April 1.—My bees are doing well. Say to my northern friends that my first swarm came out on the 19th of March. I have had thirteen new swarms, and hived them all safely. Last year I had my first swarm on the 1st of April. Bees commenced storing honey on the 1st of March. I have never known them to work so fast. If the season continues good, I hope to make a large quantity of honey. All the bees are doing well. I wish to commence Italianizing next fall. I am working the black bees, but they are very good tempered. They rarely sting. My Bee Journal comes regularly, and I am well pleased with it.—L. M. COCHRAN.

WEST TROY, N. Y., April 3.—Bees have wintered finely in this section. Out of eighty-one (81) stocks wintered on their summer stands I lost but three, one of those by carelessness, and the other two I think were queenless last fall. They have taken flour for four weeks past, and seem to be breeding uncommonly fast. March 31, I saw them carrying in pollen from soft maple. If April and May should prove as good as last year, I think we shall have very early swarming; but it is very seldom we have April and May like last year.—W. M. STRATTON.

KANSAS CITY, MO., April 5.—Bees last summer made nothing. Many hives died during the winter of starvation. I am stimulating a few now, to keep them alive. Peach trees now are in full bloom here, and I hope I am about out of the woods, as I find feeding difficult. I am surrounded by fine bee pasturage, and think this the best place for bees I have ever lived in. White clover abounds. As I am a novice at the business I must go slow, (I find it does go slow,) as last season produced not a pound of honey.—F. HOLSINGER.

BERLIN, WIS., April 10.—Vegetation is nearly a month earlier than usual, but now we are having a storm of sleet from the northeast. Our bees have wintered well here. Honey was good last season.—L. BECKWITH.

NATCHEZ, MISS., April 11, 1871.—To-day the weather is fine and bright. Our spring season has opened very early and favorably. The latter part of our winter was much milder than usual, and vegetation has put forth early and rapidly—our fruit trees blossoming much earlier than usual. My bees have improved their time accordingly. My first swarm issued on the 19th of March, followed by another on the 24th, two on the 26th, one on the 29th, one on the 2d instant, and several others since—all first swarms and hybrids, excepting the earliest one, which is pure, or very nearly pure Italian. Yesterday my first black bees swarmed, while others are making preparations. About thirty-six miles from here, in the country, a friend had his bees to swarm about two weeks ago, all blacks. The prospect here is very good for a fine honey season, if if our forward spring should not prove the forerunner of a dry and unyielding summer.—J. R. BLEDSOE.

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[For the American Bee Journal.]

Novice and the Eureka Bee Hive.

MR EDITOR :—Do you not think that Novice is a little out of place in the remark he made in the March number of the Journal, page 206, on Jasper Hazen and his Eureka bee hive? I should judge from his language that he considers himself something more than a novice. Supposing that he has the best hive, and is the most successful beekeeper, does he suppose that all others can reach his eminence in bee culture at one step, with book knowledge only, and be also very successful? We learn of numbers who have taken a step far in advance of where they were, and have so fallen that their experience was *too dear*. It is *practical* knowledge we want, and that, like all trades, must be got by degrees. If we change from common hives, with honey boxes attached, to movable comb hives, we had better try only a few at first, and hold on mainly in the old way until we learn a better. Some beekeepers, highly interested in the business, may never have a taste for so much overhauling of bee hives as taking the honey with a melextractor requires; and these, and some others, want to do the best they can, in box-honey. And why shall they not have a chance? Why shall not the merits of such hives be put before the public, as well as others? And why shall not Jasper Hazen have the same privileges through the Journal as others, when patentees have, so far, been allowed so liberal a share of room? We presume Mr. Hazen would like to sell rights, but is he alone to be benefited by the trade? Do we not all know that a good hive has a good deal to do with our profits in apiculture? I have so far mainly used the Colton hive, with a capacity of 72 pounds for box honey; and for the last two years have beat the American hive, which has been kept in town. I have made four Eureka hives, and from what I see of them, I believe them the best in the country, to make profit by means of box-honey. Such is the construction, that the bees will hardly know whether they are in the boxes or in the main hive. The boxes when filled, will show off in good shape, and so help the sale. If need be, the combs may be taken out.

I see from the American Beekeepers' Convention, there is complaint of the dull sale of extracted honey, and the idea is advanced that it will be necessary to lower the price. Box-honey, because it is known to be pure, sells more readily and higher. It is yet to be seen, after Mr. Hazen *stimulates his bees a little more scientifically*, with his higher price of honey, whether he will not receive a larger profit than even Novice himself.

ALONZO BARNARD.

Bangor, Me., March 6th, 1871.

P. S.—The word *usually* should be inserted in the eighth line of my communication in the Journal for March, so as to make the sentence read—"With few exceptions, the Italians have done the best, and usually, much the best."

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[For the American Bee Journal.]

"My Patent Bee Hive."

What intelligent beekeeper can read the heading of this article, without feelings of disgust and indignation? Of disgust, when he thinks of the legion of foolish and worse than useless devices to manage or rather mismanage the little honey bee. Of indignation, when he remembers how those devices are combined with valuable qualities, thus either infringing on the patented rights of other parties, or which are not and cannot be patented—the inventors having given them to the world.

Now, I wish to say a few words upon patents in general, and patent bee hives in particular. It has been said that "necessity is the mother of invention." The emergencies of the circumstances require the attainment of a certain object, and immediately the attention of all interested parties is centered upon that object; and it will not generally be long before a method, and perhaps several of them, will be devised to attain it. Many important inventions are the result of the merest accident, and many others result from seeing some person do a thing in a novel and efficient method, but which the operative never dreamed of having patented.

The fact is, inventions *grow*. By which I mean that the research and investigations of the past are the capital stock of the present; and we take their achievements as the basis on which to build further improvements. The first man was not a skilful mechanic, and the first mechanic did not invent the steam engine—nor did the first beekeeper invent the movable comb system. Thus we see the reason why, in many cases, the same thing is being studied and "invented" by different persons, and perhaps in different countries, at the same time, and their inventions are being consummated nearly simultaneously.

Now, a word about patent hives. Mr. Langstroth I regard as exceptionally honest, and honorable in all his claims, in this direction; and yet I must criticise his course in this matter somewhat. I obtained a right to make and use Mr. Langstroth's invention under his original patent, and made a considerable number of hives, so that I have not used them all yet. Many of my neighbors made similar hives, without purchasing any right to do so. I wrote to Mr. Langstroth asking him if he was the first inventor of the movable frame, and if so, why infringements are not prosecuted? He replied that he did not claim to be the first inventor of the movable frame, but he claimed to have invented "the first movable frame that was of any particular value."

Now, this is too ambiguous. We don't know what Mr. Langstroth's movable frame is. Munn, of England, invented a movable comb frame some years before Mr. Langstroth's patent; and I understand that Debeauvois, of France, in 1851, made and used a movable comb frame with sides and bottoms at suitable distances from the bottom and walls of the hive. I suppose the shallow chamber below the honey board, to be Mr. Langstroth's invention, but beyond that I don't know what it is. I have understood that at the time of the re-issue of his patent, he made certain disclaimers, stating what he did not claim; but very few persons about here know what they are.

And now, patent bee hive men, let us know just what your patented inventions are, and what they are not, and we will judge for ourselves whether they are valuable to us, or not.

L. BECKWITH.

Berlin, Wis., March 13, 1871.

[For the American Bee Journal.]

Kane County (Ills.) Beekeepers' Society.

At the last Kane County Beekeepers' Quarterly meeting the first question debated was the rearing of queens from eggs or larvæ. It was decided that full colonies of bees be employed, and eggs used, with the proper feed ready prepared by the bees, by the time the eggs hatched into larvæ. Recommended to remove the queen cells started from larvæ, insert hatching eggs, at the time the nursing bees are ready to feed the young queens from the commencement, and no half-starved queens produced.

Bee pasturage. It was decided to be desirable to furnish crops producing honey, for large apiaries, it not being safe to depend on natural sources in all locations. An increase of fruit trees and shrubs, in new locations, was recommended; as also, to increase the culture of the raspberry, basswood, and maples for sap and sugar, as well as flowers. Chestnut and tulip trees to be tested, as to their adaptation to our climate and soil. Alsike clover to be grown on moist, rich soil; and perhaps mulched to retard its too early flowing. Buckwheat was highly recommended, as with the honey extractor, the honey could be managed to suit the keeper or the bees.

The dairying interest in our county was spoken of as being advantageous to bee keeping. Resolved that all who can, should attend the meetings of the North Western Dairymen, to be held at Elgin.

QUESTIONS PROPOSED.

1. Special honey crops.
2. Does sugar undergo any change when fed to bees?
3. Does honey shrink in measure or weight, after being taken from the hive?
4. Bee feeding—the quantity and quality; and for what purpose is it necessary to feed?

The above subjects were discussed, and further consideration postponed to the next meeting—when they may be taken up or continued, or other questions taken up, as may seem desirable.

A Fox River Valley Beekeepers' Society is spoken of to be organized on the same liberal plan as the county society.

All persons are invited to attend our quarterly meetings, without cost, as the Treasurer has sufficient funds for present use. Any person can become a member by applying to the Secretary, J. M. Marvin, of St. Charles.

The officers of the society are:—

President—William Urie, Aurora.
Vice President—George Thompson, Geneva.
Secretary—J. M. Marvin, St. Charles.
Treasurer—S. Way, Batavia.

[For the American Bee Journal.]

Winter-Surviving Drones.

MR. EDITOR:—I scarcely feel myself able to write a few lines for your valuable Journal, yet when something unusual transpires, I feel it my duty to make it known. While examining my bees the other day, I found drones in perfect health, as far as I could see, and they, too, from last year's raising—since, in our latitude of 40° north, such a thing as raising drones naturally, this early, is simply impossible.

Why, or for what reason, they were allowed to live over the winter, is certainly not easily understood, since the bees are in perfect health and have good fertile queens. These drones are not found in one hive only, but in a good many, and quite a number appear to be left in each. One reason may be that last fall there was an abundance of honey, and the hives were full of bees, and amid such plenty their usual instinct for destroying all that are not useful, may to a certain extent have left them. However, I should like to have some of the old bee men who contribute to the Journal, give their opinion of this case.

The season so far has been very favorable for bees, and they are rapidly breeding. The only fear is that they may exhaust their stores before the soft maple and the fruit trees come in bloom.

W. B.

Gebhartsburg, Pa., April 10, 1871.

AMERICAN BEE JOURNAL.

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VOL. VI. JUNE, 1871. No. 12.

North Eastern Bee-keepers' Association.

SECOND ANNUAL MEETING,

AGRICULTURAL ROOMS,
Albany, N. Y., March 15, 1871.

The Association was called to order by the President. The Secretary being absent, J. H. Nellis was chosen Secretary *pro tempore.*

The Report of the semi-annual meeting held at Utica was read; but as no action was taken, it was resolved that we telegraph to the Secretary, requesting him to forward immediately to the acting secretary the minutes of the last meeting, together with the Constitution.

The Treasurer's report was read and approved. The retiring President then read a very able and instructive paper on bee culture, which was highly appreciated, and a vote of thanks was tendered to him for the thought and research which he had given to the subject.

The election of officers for the ensuing year was taken up, and resulted in the chosing of the following gentlemen:

President.—M. Quinby, St. Johnsville, N. Y.
Vice President.—C. C. Van Deusen, Sprout Brooke, N. Y.
Secretary.—J. H. Nellis, Canajoharie, N. Y.
Treasurer.—J. E. Hetherington, Cherry Valley, N. Y.

An opportunity of joining was given to persons not already connected with the association, and those who were members during the past year, renewed their connection by paying to the treasurer the sum required annually. (Any person may join the association, or renew his connection therewith, by sending one dollar with name and address to the Secretary.)

Adjourned to 7½ o'clock in the evening.

EVENING SESSION.

Meeting called to order by the President. Minutes of last session read and approved.

Introducing of queens was made the subject of discussion, for the purpose of eliciting experience with the last and most approved methods.

Mr. Van Deusen said, in making artificial swarms he had practised the following method successfully. Remove the stock from which a swarm is to be taken to a new station, some feet distant, and place a hive filled with empty combs on the old stand. Take the queen, with about a quart of bees, from the old stock, and put them into the hive containing the empty comb. The bees returning from the fields enter the hive on the old stand, and when evening comes, most of the old bees have returned to this hive—making it strong in numbers. In the evening, a queen is smeared with honey and dropped into the top of the hive from which the swarm was taken. It makes no difference whether the queen is fertilized or not, as the young bees are very easily satisfied. The operation should be performed on a fair day. He had introduced Italian queens to black stocks in the fall, by removing the black queens and thoroughly smoking the hive with tobacco, after which the Italian queens were rolled in honey and dropped among the bees.

Mr. Root objected to tobacco smoke, as it leaves the bees very irritable.

Mr. Quinby thought safety in introducing a queen depends on having all the bees well filled with honey when she is put among them, and recommended bee keepers to experiment with this point in view.

Mr. Vrooman said that one season, while using the box hive, his bees were hanging idly on the outside of the hives, and to make a swarm, he had removed a few bees from the fronts of several of the different hives, and uniting them in one body, had put them in an empty hive on the top of which a queen was confined by a tumbler. After the bees were hived, the queen was allowed to join them, and was kindly received.

Mr. Stanton and others thought this method could not be relied on, as the bees would be likely to return to their respective stocks.

Mr. Nellis had tried the method recommended by Baldwin Bros., Mrs. Tupper, and others, in which the queen to be introduced, is confined in a wire-cloth cage, by old worn muslin, which the bees are expected to remove. He did not think highly of it, as out of five or six attempts he had been successful only once.

Mr. Hetherington liked the good old plan better than any other. He had introduced seventy-eight queens at one time, without losing a single one. He described it as follows: Remove the black queen, and let the hive alone seven days; at the expiration of that time, open the hive and cut off *all* queen cells. After the combs are re-

Entered according to Act of Congress, in the year 1870, by Samuel Wagner, in the office of the Librarian of Congress, Washington.

placed, smear the Italian queen with honey, and drop her into the top of the hive.

Mr. Root thought we could not afford to squander so much time in the swarming season. A stock deprived of its queen often loses in a few days an amount of brood equivalent to a swarm. If queens can be introduced immediately, he believes we could afford to lose one out of every five, rather than wait a number of days.

Mr. Van Alstine had paralyzed bees with puff-ball, and after hunting out the black queen, had put the Italian queen among them. By this means queens are easily introduced to box hives. He also united weak stocks by paralyzing the bees.

Mr. Van Deusen had introduced queens in another manner. Take thin sugar syrup and scent it with anise oil, in the proportion of five or six drops of oil to a pint of syrup. Remove the black queen and sprinkle the bees well with the syrup, when the Italian queen will be kindly received.

Adjourned to meet at 8½ o'clock to-morrow morning.

MORNING SESSION.—*March* 16.

The association met promptly at time specified. Minutes of the last session read and approved.

The following question was proposed and discussed :—Will the general use of suitable empty comb, prove advantageous to bee-keeping?

Mr. Hazen was called upon to give his experience. He said he had not given this matter much attention. He once had a stock standing in his apiary, which must have lost its queen, for when the swarming season came the bees were nearly all gone. For two or three days he noticed an unusual stir about the hive, at the expiration of which time a large swarm came from an unknown source, and took possession of the hive. These strange bees were evidently cleaning house, preparatory to moving in. Although the hive was filled with combs, this swarm did not store as much surplus honey as many swarms placed in empty hives.

Mr. Quinby wished to know if the hive was not infested with worms.

Mr. Hazen thought not.

Mr. Quinby.—Was not the comb filled with bee-bread?

Mr. Hazen did not know. His experience with empty combs had not been of a favorable nature.

Mr. Stanton thought it profitable to give empty combs to swarms—especially large ones, as they are apt to build too much drone comb.

Mr. Hetherington said he found first swarms of moderate size built more drone comb than very large ones. He thought the case cited by Mr. Hazen was a very unfavorable one, as the hive was probably filled with old bee-bread and dirt.

Mr. Quinby said the secret of making empty comb a source of great profit, consisted in using the honey-emptying machine. When flowers yield honey abundantly, if swarms are supplied with comb, they fill it before the queen can deposit many eggs, and at the end of the season the hives are crowded with honey; and although the stocks appear strong in numbers, they are comparatively weak. Honey should frequently be taken from the centre of the hive, thereby giving the queen many opportunities of starting brood. Stocks storing in boxes, should also be treated in this manner, as it does not retard the filling of the boxes, and insures their strength.

Mr. Root said hives containing 2,000 cubic inches were large enough for the absolute wants of the colonies; but when the honey season arrives, the bees should be largely supplied with empty combs. He ventured the assertion that five hundred (500) pounds of liquid surplus honey can be taken from a stock in one season, if carefully and promptly managed.

Mr. Nellis agreed with Mr. Root's assertion and said he would try to obtain that amount.

Mr. Van Deusen said that on the 25th of May he hived a very small swarm with three empty combs. When partly filled with brood, he separated them and placed two empty combs between them. Shortly after this he gave them three frames of brood taken from other stocks. This stock soon became very strong, and gave him seventy-six pounds of white clover box honey.

Mr. Vrooman said swarms hived with empty combs should be supplied with boxes immediately.

Mr. Nellis favored this idea, but thought the bees would fill the body of the hive before comb could be built in boxes.

Mr. Hetherington said one fact had been established—Great quantities of honey are used in elaborating wax; for this reason all clean comb should be saved. He thought empty comb could be used with peculiar advantage, twice in a season; first, to secure brood in spring; and second, to derive the benefits of the honey harvest, by using the mel-extractor.

The following resolutions were offered and adopted :

By Mr. Hetherington.—*Resolved*, That the Executive Committee of this association constitute a committee on publication, and be vested with discretionary power.

By Mr. Vrooman.—*Whereas*, More rules seem to be necessary to the proper government of this association, therefore

Resolved, That the President be authorized to appoint a committee of three, to draft by-laws to be presented at the semi-annual meeting.

The President appointed as such Committee, Messrs. Hetherington, Vrooman and Nellis.

By Mr. Root.—*Resolved*, That the President, Vice President, Secretary and Treasurer be appointed and constitute a committee to name the points worthy of consideration in awarding premiums for surplus honey, at the next State Fair; and furthermore, that they confer with the Executive Committee of the Agricultural Society in reference to the same.

By Mr. Hetherington.—*Whereas*, The object of this association—the advancement of scientific bee-culture—has been in a great measure defeated by neglect to give sufficient notice of the time and place of this meeting, therefore

Resolved, That the Secretary be requested to use all available means for giving publicity to future meetings.

A little time being left, discussion was resumed.

Mr.——(I did not get his name) spoke at length upon the richness of our country. He had travelled in Germany, and although that country is noted for the great number of stocks kept, and the intelligence manifested in their management, he thought our land offered superior inducements to the bee-keeper. New York State is indeed a Land of Promise—a land flowing with milk and honey. He was disappointed at not seeing a larger crowd. An organization covering such an extent of territory should have a regular attendance of at least one hundred bee-keepers. He thought proper notice of the meeting had not been given, as he had become aware of it only incidentally. He recommended that notice be given in the papers of the city in which meetings are to be held, as many persons, who do not keep bees, would attend the sessions, on account of their love of scientific discovery.

Mr. Nellis said he had seen an article in a paper denouncing the placing of honey boxes at the sides of hives. The writer said that bees did not fill them as quickly as when placed on the top. He could not agree with this statement and wished the experience of others.

Mr. Hazen has never been troubled with getting bees to work in side boxes, when placed in close connection with the hive.

Mr. Stratton had practised side boxing for more than twenty years, and thought it vastly superior to placing them on the top. He could get twice as much surplus honey by placing boxes at the sides.

Mr. Nellis said, in a number of cases, he placed boxes at the sides or on the top, at the same time, and invariably found the lower tiers of side boxes completed before any others.

Mr. Quinby thought this due to the fact that the bees entered the hives from below, and therefore found those boxes sooner than any others.

Mr. Vrooman had put empty boxes upon hives as late as the 20th of August, which were well filled.

Some one asked the following question—Which is the most profitable, to fully supply stocks with stores in the fall; or give them honey enough to keep them till about the first of April, and then feed them every evening until honey gathering commences?

Mr. Hetherington favored the latter. He thought the superior strength and vigor possessed by such stocks amply paid for all the extra trouble.

Mr. Nellis had not experimented with this point in view, but his experience did not favor such feeding. In the fall of 1869 few stocks were fully supplied with stores, and only two of his had sufficient honey to winter them. After his stocks were removed from the cellar, he fed them every evening; but they failed to gain in strength and activity, as fast as the two which were not fed.

Some of the members had not tried this method of feeding; but all who had, were loud in its praise.

Mr. Hazen then offered the following resolution, which was unanimously adopted, viz.:

Resolved, That the greatest success in bee-keeping depends in furnishing plenty of surplus room, thereby keeping all the bees engaged in gathering honey.

Mr. Quinby laughingly remarked that any bee-keeper who did not avail himself of this advantage, could not remain in the business long.

The Secretary was requested to send minutes of this meeting to the different papers, after which the association adjourned.

J. H. Nellis,
Secretary.

Canajoharie, N. Y., April 12, 1871.

* * *

[For the American Bee Journal.]

Novice.

Mr. Editor:—We wonder if all your readers feel as we do when the Journal is brought in, viz.: that they positively must be released from all duties, however pressing, until it has been *looked over*—not read, for to read it through takes considerable time; and we really cannot feel like laying it by, as finished, until it has been gone over the *third* time. For instance, we first run it over, then read it—*advertisements* and all; and lastly read it carefully and slowly, to make sure that we have not missed anything that we think worthy of being firmly impressed on the memory, and acted on when the proper time comes. By the way, Mr. Editor, we wish it were in our power to impress on the minds of the numerous correspondents who write to us for information, the *very great advantage* they would derive from a thorough perusal of the complete back numbers of the Journal. We are asked the same questions over and over again, that have been so thoroughly discussed in the Journal already; and rather than go over the ground again, we would almost prefer sending them the back numbers at our own expense. In our opinion a thorough perusal of the six volumes would be of more benefit to a beginner, than spending a whole summer in some of the leading apiaries of our country.

Many visitors think, on seeing us work with our bees, that the matter is very simple; yet when they attempt the same, without learning the reasons for each move, and the almost innumerable contingencies that may turn up, (we refer to queen-raising, particularly,) they find that without going down to the foundation of the science, failure is of course almost certain.

If you would succeed, (and we hardly see now where the limit is going to be of what a stock of bees may produce in one season,) *study the subject thoroughly.* In almost every instance of failure, you may, if you look, find from the experience of others, the cause and the remedy plainly pointed out in the back numbers of the Journal.

We are very much pained to see how Alonzo Barnard has misunderstood us on page 263. We think he must have read our criticism rather hastily. It is the *principle* and not the man we object to.

Nothing certainly could give us *more pleasure* than to learn that Mr. Hazen has made a larger profit from *his bees* than we have from ours. We rejoice at any one's success *with bees;* but not in selling the public patent rights for something which they have already.

What has Mr. Hazen invented, or what has he done to further bee-keeping? Were his patent hive ventilated, we fear that it would present a sorrier show than even Mr. King's American hive.

Supposing you paid five or ten dollars for a great secret for charming or quieting bees, and on trial the liquid did really do, in some cases, all that was claimed for it, when you should discover that this liquid was nothing more than sugar and water, should not the public be told that they have it already?

Mr. Hazen has, for the past six years or more, scattered his articles through the press, so carefully gotten up that they were innocently published as giving *bona fide* facts; and yet their tendency has been to discourage all real progress or improvement, with no other design than to advertise indirectly his Non-swarmer, as he claims it to be. [See *Report of North Eastern Bee-keeper's Association.*] If Mr. Barnard could see our apiary, he might think that we had no particular hive, although we have a principle that we act on, whatever the hive may be.

We thank Mr. B. for his candor, and will try and set him right in his view of us. Thus—Take any movable comb-hive that is convenient for the purpose, full of brood and bees. Instead of boxes, place empty frames at the sides of the brood combs, and above, if you wish of course. The hive must be large enough to give the bees all a chance to work. Remove the frames when full and sealed, and *be sure that the bees will at all times have plenty of room,* so that they *perhaps* will not swarm. Is there any necessity for paying Mr. Hazen, or any one else, for the right to do what we have put in italics?

If you think the Eureka hive has any advantage over this, try it, or ask any experienced apiarian, or read the article from C. O. Perrine & Co., page 256.

In one case, the honey is stored in small boxes; in the other, in the body of the hive. [See page 255, "Side-gathering Hives."] The fact that thousands of old boxes do not afford room enough for *any surplus,* or that many bee-keepers who have movable frame hives do not give room, argues nothing. A neighbor of ours, who has Langstroth hives, got no surplus last year, he "didn't have time to put on boxes at all."

We have not mentioned the melextractor, but the task seems so hopeless of convincing bee-keepers that "overhauling" hives in that way is *much less trouble* than using boxes, that we will give it up for the present, and let them learn it when they get ready, as they have movable frames.

On page 248, Mr. McGaw has got the very erroneous impression that we considered drones from a virgin queen not capable of fertilizing queens. At the Cincinnati Convention we gave at length the result of an experiment convincing us (if we had any doubt before, for we had read the old Journals too well) that the drone progeny is in no way influenced by the fertilization of the queen. The train of reasoning that has, in some cases, been brought to bear against the old theory is positively "awful"—we can think of no better word. One writer in particular, it seems to us, must see his blunder, if he only reads *his own book* over again.

We have been taking unusual pains this spring to keep our bees warm, to promote breeding, and think more highly than ever of the quilt honey board. Mr. Bickford, we think, gave us the idea. Use strong cloth, or the bees will eat through it. The ease with which a hive can be opened, with these quilts on top of the frames, is refreshing.

Of all the foolish things about a bee-hive, we believe a movable side is the most so. Five years ago we deliberated long and earnestly on a Langstroth hive and an American, and having no disinterested friend to tell us better, we foolishly made fifty of the side-openers, and even cut combs out of the Langstroth to put into them. As we have nice straight combs in them, we tried to use them; yet the thirty we have had in use, we feel, have been hundreds of dollars damage to us.

The movable side will shrink and swell alternately, so that it is impossible to make it shut tight; and a new two-story one which the inventor has just sent us, (and we really believe there is not a feature in it that his patents can cover,) would not shut after we had it a week, and now, in spite of all we can do, robbers could go in at the cracks—as in fact they could into all of them, unless a row of sentinels were kept "up one side and down t'other."

We attempted to make a two-story hive of some of them, but have lately seen two different bee friends who have tried the same thing, and they have quite discouraged us in any such "gate post" arrangement. For the benefit of those unfortunates like ourselves, who have the American hive and do not want to destroy them, we attempted to suggest a way, in the Bee-keeper's Journal, in which they might be used; but were so disappointed to find the article so in print as though *we were not aware of the existence* of any other hive, that we shall not probably try it again.

On page 285, the last item of our article should have read, in regard to lady bee-keepers—"how we would *like to* visit their apiaries." The omission of the two words "like to" made our remark look almost disrespectful, for we should be sorry to call on the ladies without an invitation—and even then, our time is too much occupied for visiting much.

In conclusion, we would add that we really do not like to speak ill of any one, and though our criticisms may have seemed harsh or out of place, our only motive was to protect the inexperienced "brother novices" from the false statements and misrepresentations that have been such a curse to the mass of bee-keepers. If patent hive men have the freedom of the Journal to proclaim their wares, they must take the consequences; for *we,* who have no interest in any hive except its worth to the public, have freedom of speech too. One of the greatest benefits the Journal has accomplished has been in exposing fraud and imposition.

That fraudulent bee-hive vendors may turn honest men, and learn that it is far better to earn their bread (and honey) by the sweat of their brow, is the sincere wish and prayer of

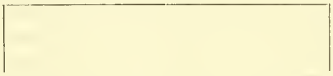
NOVICE.

◆

[For the American Bee Journal.]

Wire Clamps *vs.* Splints.

MR. EDITOR :—In reading Mr. Quinby's Bee Notes in the American Agriculturist for May, I was once more reminded that some of us had a better way of fastening combs in the frame, in transferring, than by means of the splints which he still recommends in said notes. So I wrote to him how we do it, and now I write to you.



We use wires one inch longer than the frame is, from outside to outside, crosswise, or up and down, as you choose, and bend them half an inch at each end, as shown in the cut above. Hook one or more of these wires, so bent, on one side of the frame, turn the frame over, put in your comb, and hook on one or more of the wires over the comb, on that side, and the work is done in about half the time I have been writing this.

I use the old-fashioned pincers for bending the ends. Perhaps you can find something better, but they answer a very good purpose.

Please tell the people, so that they may no longer waste their time with splints.

The honor of the invention belongs to *J. J. W. Billingly*, Spring Valley, Marion county, Indiana.

J. J. WHITSON.

Valley Mills, Ind., May 1, 1871.

◆

[For the American Bee Journal.]

Questions for Novice.

DEAR NOVICE, will you please answer through the A. B. J., the following questions, viz. :

What is the depth and length of the frames *you use* in your two-story hives, inside measure; and how many frames do you use in each hive?

What is the distance across the frames?

Do you use the old triangular guide, to secure straight combs?

Have you ever had any trouble with the mel-extracted honey souring?

Do you boil the extracted honey, as recommended by Mr. Langstroth; or do you put it in *cans* immediately after it is extracted?

Are the cans you use air tight, after they are filled, and ready for market?

INQUIRER.

[For the American Bee Journal.]

Death from a Bee-sting.

"A young man, named George Pelham, was stung by a honey-bee, in Westkill, Greene county, N. Y., on Thursday last, (April 27th, 1871,) and died from the effects in less than an hour. The local accounts say that, soon after being stung, he 'complained of feeling faint, and turned spotted.'"

I copy the foregoing from the *New York Times* of April 28th. This is another instance of sudden death from the sting of a bee, and shows how intensely virulent the poison acts sometimes, perhaps according to the predisposition of the body under certain circumstances.

J. N. ROTTIERS.

☞ A speedy application of the *cold water cure*, recommended by Mr. Gallup in a former number of the Bee Journal, might have saved life in this case.

◆

[For the American Bee Journal.]

A Season in New Jersey.—No. 4.

Several of the swarms I purchased were quite populous, and as I was not at that time prepared to use them all in my nucleus boxes, I disposed of them in the following manner. Beginning with the most populous, I drummed them out, and hived them in hives fully stocked with worker combs. This was done, not from any preconceived theory, but because I had lost so many bees, and had an abundance of combs on hand. It was done about the first of June, and proved to be the most profitable way I could have adopted; at least it seemed so to me.

There were several objects in view, which led me to adopt this way. I wanted to save the combs, as they were straight and nice; the queens were natives, and I had no Italians to replace them with; and in this way the breeding of drones was prevented. Dry and hot weather soon came on, and for nearly two months bees could scarcely do more than gather a living. Bees, having their combs to build, could neither breed much, nor gather much honey; but these colonies, having a full supply of combs to begin with, laid in a good store to carry them through the season of scarcity, and bred rapidly. In the meantime Italian queens had been given to them, and by the time buckwheat blossomed, they were well stocked with yellow jackets. A few dozen drone cells were built in some vacant spaces, but were removed in season to prevent drones from being hatched. I was somewhat surprised, on receiving the July number of the American Bee Journal, to find a plan therein described almost identical with the one I had followed—which was translated from the German, as an excellent mode of securing surplus honey. The combs containing brood were fastened in frames, and given to colonies where it would be properly cared for.

The exceedingly hot and dry weather for two months in midsummer, effectually stopped small swarms from prospering, and I was obliged to cease forming nucleus colonies for queen rearing, and feed and take special care of those already formed, to keep them along. About the first of August the huckleberries dried up. An old settler told me they were usually most numerous at that period, and that such a drying time had not been known here for forty years.

I also made the unpleasant discovery that the milkweed here is different from any I had ever seen before, and very abundant. The bees worked freely on it, and many lost their lives in the following manner. The blossoms have very acute angles, pointing upwards. The bees would get their feet entangled in these angles, and the harder they pulled in their struggles, the tighter they were fastened. Nearly every bunch of blossoms had from one to three bees either dead or struggling on it; and I think I may safely say that I *saw* hundreds that had thus perished, and *know* that a considerable number must have been thus destroyed. I have before now noticed bees with little scales of the northern milkweed attached to their feet; but this wholesale destruction was new to me.

It was certain that at the middle of August, my bees, which had not swarmed, (nor had any bees or honey been removed except from the natural causes above-mentioned), were in no better condition than they usually are in New Hampshire by the middle or last of May. How much of this may properly be attributed to the peculiarities of the season and my inexperience here, is a problem not easily solved. It is certain that had I known what to expect, and prepared myself for it, a far different result might have been obtained. It is not pleasant to record one's failures, but if it shall prove of advantage to others, as I think it has to me, then you are welcome to the facts.

The severe winds ceased in the early part of summer, and the weather was remarkably pleasant and quiet until the middle of October. The first buckwheat I sowed was blasted by the heat; but some sown later proved to be of considerable value. The bees had worked on it perhaps two weeks, when a long rain came on, after which very little more was done. I never before had honey stored so rapidly from buckwheat. The hives had been so poorly supplied that I began to think the bees would not get honey enough to winter on; but one day I discovered that one of them had been speedily filled, and bringing my machine into use, I soon removed from fifteen to twenty pounds from each hive, leaving them enough for winter stores.

I forgot to mention about the toads. There are in this region 799 (or less) on each acre, and just at nightfall they sally forth for their evening meal. They are a small variety, and quite active. One of my neighbors calls them *hoppers*. Now I do not like to kill toads (you know, it makes the cows give bloody milk!), and think I never did kill one before I came here. But when I went out and found one, "squat like a toad," as Milton says, by the side or in front of each individual hive and nucleus box, my patience was sorely tried. As my cows are kept five or six miles away, I thought I would run the risk, armed myself with a stick, and "went for" the squatters. O my! what a scampering there was among the toads! Ten, twenty, fifty—I don't know how many more were caught "chucking" down the bees. Some, however, got away, and in a short time not a toad was to be found around the hives. I really believe that those which got away were intelligent enough to keep away. The toads did not come back, and the cows *did not* give bloody milk; so I quieted my conscience in that respect.

J. L. HUBBARD.

Bricksburg, N. J.

[For the American Bee Journal.]

The Non-flying Fertilization of Queen Bees.

Public attention has been for some years directed to securing the fertilization of queen bees by a process entirely under the control of the apiarian, so that, while selecting the choicest mothers, he may also select the choicest fathers of his apiary, for their progeny. It is only within a few years that it has become specially important to control the fertilization of queens. Since we have commenced breeding from different species of bees, it is as desirable to control this, as it is the stock-raiser to control the breeding of his cattle.

Believing that when a thing is evidently desirable, the CREATOR has always provided some means of attaining it, I have experimented largely and persistently to control the fertilization of queen bees. Thus far all my experiments have been failures. One plan I have, which, if others fail, I shall give to the public as a plan promising success, although somewhat too complicated for the common breeders of bees. We have reports from various parties, in communications to the different Journals, in private utterances, and in addresses to bee conventions, of great success, in what I shall call non-flying fertilization, simply by confining queens, when of proper age, in some receptacle connected with the hive, so that they receive sufficient warmth, and then at the proper time introducing to them one or more selected drones. From the evidence presented it seems certain that some queens have been fertilized in this way. But as some of our largest and most experienced breeders have failed in almost every instance in which they have attempted thus to control fertilization, it seems very evident that we have not yet attained what may be called a practical method of non-flying fertilization.

I propose a plan by which this confinement of queens with selected drones may be tested the coming season at small expense and on a very large scale, so that by the efforts of many, in different parts of the country, we may reach precisely what are facts and what are merely conjectures; and if facts, what modifications of the proposed plan may be needed, in order to make it practically useful.

Let a box be made, to fit over the top of one of my hives, in place of a honey-board. Let this box have for its bottom wire-cloth too fine to permit bees to pass through it, and let it be so fastened to the under side as to be kept about three-eighths of an inch from the top of the frames. The sides of this box may be about six inches deep. Within it place a series of small boxes compacted together, each one of which has a wire bottom resting on the wire bottom of the larger box. Make these boxes of sufficient size and depth to receive a frame of the usual size of frames in nucleus boxes. If desired, the sides of these small boxes may be glass. The top should be movable, having a small hole closed with cork. When the apiarian has a sufficent number of young queens, or queen cells nearly matured, he should make as many nuclei as there are small boxes. Before making these nuclei, let him select suitable nuclei frames containing honey, and each supplied with a small quantity of water. Into each of the frames let a queen cell be carefully inserted. I find the following to be the simplest way of supplying these nuclei with bees. Take from the hives one or more combs. Let them stand for a few minutes, leaning against the hive, until the bees have filled themselves with honey. Then shake them into a large vessel of moderately cold water. With a skimmer gather them together, and put the required number into each box. The whole process will occupy scarcely more time than has been used in describing it. When the large box is filled with these small nuclei, place over them cotton, wool, or some other good non-conducting substance. They will then receive through the wire-cloth of the bottom board, and retain, all the animal heat that is necessary to mature the queens. By inspecting these boxes through their glass sides every bee can be seen, as in an observing hive, and the apiarian can always ascertain when the young queens have hatched. Then, when they are about five days old, let him remove the cork and put into the nucleus one or more selected drones. If any light is needed, in order to secure the fertilization of these queens, it may be introduced by raising slightly, or, if desired, removing entirely the top cover of the hive, and the small boxes may be separated by wedges, to admit the light more perfectly. If the outside temperature is not sufficiently elevated for the fertilization of queens, (I find that a temperature of about 70° is usually necessary for this purpose,) it might perhaps be useful to remove the large box containing these nuclei from the hive and place it upon heated sand, bricks, or some other warm but not too hot surface, at about one or two o'clock in the afternoon, the time in which queens are usually fertilized.

In this way we might possibly secure the fertilization of our queens quite in advance of the usual season, as we can always, by retaining a few drone-laying queens in the apiary, have an abundance of early drones. One advantage of the method thus described is the large number of nuclei which may be made in connection with a single hive; and the fact that this box, with its nuclei, may be at any time removed and replaced, without interfering with the members of the colony; one or all of the nuclei may be removed without opening the hive.

If the queens can in this way be fertilized, and if the comb containing honey is, as it should be, a suitable breeding comb, they will in a very few days begin to lay. As soon as we are satisfied that the desired end has been secured, the queen may be removed, the attendant bees shaken out, and a new queen cell with fresh bees added. It will be seen that with one hive a large number of queens may be secured in a single season.

L. L. Langstroth.

Oxford, Ohio.

[For the American Bee Journal.]

Wintering Bees.

Editor A. B. J. :—I have two items of interest to write about—one, on the result of wintering my bees on their summer stands; and the other, "Foulbrood," which I have treated in accordance with the suggestions of Dr. Abbe.

First, as to the result of wintering out of doors. When I commenced "*improving*" my bees, five years ago, according to the suggestions of the authorities, I determined to save the great waste of honey, incurred by their vigorous appetite in cold weather. I was very successful, for I saved almost all the honey, though, alas! in some cases I lost the bees. We cannot all have the perfect bee house of Novice or the ventilating skill of Gallup; so, though most devotedly trying upward and downward ventilation, in a dry cellar ranging at 40°, I found mouldy combs and sadly weakened stock. Some few hives came out in perfect condition, but were always later in swarming than my neighbors' stocks, left out in their box hives on their summer stands. Last fall I prepared warm wadded quilts, which I laid on the frames and pressed down with a weight, covering with the cap, as usual. We had an unusually severe winter, yet I do not think there was ever more than ten days without an opportunity for the bees to fly out in the middle of the day, which I allowed them to do whenever they chose. Seeing many young bees I examined the stocks, April 26th, and found them in most instances full of brood—hardly an unoccupied cell. Two hives had drones, and one had started queen cells. My stocks are all black bees. You see I have now the opportunity to strengthen weak stocks, with frames of brood, as we shall not have blossoms till the middle of May. I feel to have gained about a month, by wintering out of doors; and have found neither mouldy combs nor dead bees. For the future I shall always winter out of doors, except a great scarcity of honey should compel me to once more run the risks of the cellar to avoid expense of feeding. Of course my experience is not necessarily adapted to other latitudes; but bee-keepers hereabouts will, I believe, find the out-door wintering, under a wadded quilt, much better than putting their stocks in the cellar.

FOULBROOD.

I had several stocks badly effected last fall, which I spread with hypo-sulphate of soda, as recommended by Dr. Abbe; but I took the precaution of cutting out all comb containing diseased brood and *pollen.* I was very particular about the pollen, for I believe that to be more likely to communicate the disease than the honey; and I now think that my experience *almost* proves it. These stocks were well supplied with brood and young bees—though, having been weakened by the disease last year, they were not as strong as the healthy hives. I can only find a *trace* of the disease—perhaps half a dozen dead larvæ to a card. Of course they have used their honey for all their requirements; and they carried in meal for pollen, till the swamp willows supplied them. Now, if the honey communicates the disease, how is it that so little has appeared, for being capped, it is impossible that the hypo-sulphate should have purified it?

I feel much indebted to Dr. Abbe, for he certainly enabled me to *check* the disease. I gave some of my stocks, last spring, cards of comb without honey, but containing a good deal of old pollen. I cannot now identify the particular stocks, but as I never found foulbrood till last fall, I am very much inclined to consider that pollen as the "destroyer" of my apiarian comfort and repose. As there is now so much brood, I do not see that I can use the soda again to any advantage at present: but I feel so desirous to be rid of the disease, that I think I shall, after the stocks become strong, put them in an empty hive for thirty-six hours and treat them as a new swarm in an empty hive. I will then thoroughly uncap and purify the combs, after which I shall venture to use them again, unless they become badly diseased before then, which I do not think probable, from present appearances.

As my stocks would have been worthless and dangerous, had they been "let alone," I feel the result of their treatment with soda most encouraging. It, is, however, yet an open question whether the removal of the diseased comb and pollen would not have checked the disease to the same extent, had no soda been used. But most certainly there is no necessity to destroy every stock containing foulbrood, as has been recommended by some writers in the American Bee Journal.

We shall have but few apple blossoms this season, as the trees seem to have exhausted themselves with their abundant fruitage of last year: but I look forward hopefully to the time of clover, as I have many acres of Alsike around the apiary.

Charles Dawbarn.

Stanwich, Conn., May 3, 1871.

[For the American Bee Journal.]

Requisites of a Hive.

Mr. Editor:—The 13th and 14th of January were very warm days here. The bees flew just as lively as at any time in summer. The hybrids (the little snoops, as my better-half calls them) pitched in several swarms of black bees to rob, and I had to shut them (the little snoops) up. In one hive that they were fighting, I found the queen at the entrance or fly-hole, in a bunch of black bees of her own colony. The little cluster was of the size of a walnut. It was a good strong colony, with plenty of honey, and ten frames one foot square well covered with bees. Did the hybrids, in their eagerness to rob drag the queen out, and her own bees gather round to protect her? I caged her and put her in the hive; and examining them four days after, found they had liberated her.

Something more on hives. For my text on this subject I will use the following words—"The shape and form of hive which the apiarian uses, has a great influence on the loss or profit of bee-keeping." The majority of bee-keepers only keep a few swarms, and do not want to be at the expense of making a beehouse to winter their bees in; and then the trouble of carrying them in and out every warm spell, or keeping the temperature just right, so that the bees will not fly, is no small or desirable job. I think I am safe in saying that not one bee-keeper in ten, will go to the trouble of wintering his bees in a special repository. Hence the necessity of a hive so constructed that bees will winter safely in it on their summer stands, without being roused by the sun shining on it and causing them to fly out and perish in the snow. All bee-keepers know that such occurrences are very detrimental to the strength of a colony; and from this cause alone thousands of colonies annually, if not killed outright, are so reduced that it takes them all summer to recruit. A hive is needed in which the bees can keep warm in, through long protracted cold spells, or all winter if necessary, without the aid of the sun's rays, and yet not have the combs covered with frost, while the bees are starving to death, though surrounded with plenty of honey. A hive simple in construction, which, when finished, any bee-keeper of common sense can use, without requiring an agent who has learned his lesson by heart to explain all its intricate parts—a hive, too, in which the combs will not melt down in summer. Such is the hive the common bee-keeper needs.

Now, Mr. Editor, and brother bee-keepers, you may think that I have invented a hive embracing all the good qualities above enumerated. I make no such pretension. There are already hives enough invented to puzzle the bee-keepers to decide which to use, especially if they listen to every inventor's claims. I am not going to say which is the best hive, for I think there are very few that will meet the above qualities, out of the many that have been patented; and Dr. Pucket would no doubt pitch into me, as he did into Mr. Rogers, and say that it was only his *ipse dixit*, or that it would need more than his bare assertion to prove it. I do not think it was a gentlemanly remark, and after giving it a second thought, do you Mr. Pucket? I always thought we were to take the word of a stranger, unless he voluntarily offered to swear to it, or told such a big yarn that no one could believe it; and I certainly do not see anything of that kind in Mr. Roger's statement. It was a plain, candid response to your own request, and every way merited a dispassionate and courteous acknowledgment. But I have got off from my text, and will return if I can, and try to stick to it.

I have tried the J. M. Price hive. I do not mean the revolvable, reversible one; but the one described in the Journal, Vol. IV, page 87. The Dr. Conklin hive embraces nearly the same principles, and is, I think, more convenient for surplus honey boxes and for shedding the rain. Alley's Langstroth hive, with its side box arrangement, deep brooding apartment and outside covering, is a good hive, if we can credit the statements of the side box arrangements; and why shouldn't we credit those statements? Such experienced veterans as Quinby, Gallup, Hazen, and others I could mention, would not knowingly make statements to lead their brother bee-keepers astray.

I took two swarms to O. E. Wolcott's to have them Italianized. In a few days one of them cast a swarm. Mr. Wolcott put them in a Langstroth hive. On the 13th of January I found them nearly all dead; the few bees that were living looked nearly as large as queens, appeared to be damp, and discharged all over their combs and frames, but had plenty of honey. They had just the appearance of two swarms that I left at the north side of the house through a long spell of cold weather. They had upward ventilation in caps; and so had this swarm that I lost in the Langstroth hive. I examined the rest of my apiary, and did not find one-fourth as many dead bees in thirty colonies, as there was in this one Langstroth hive. I had three young swarms away from home near a buckwheat-field. They were brought home at the same time and had the same care that the one in the Langstroth hive had, and they are all bright and lively. Some may claim that they got the bee cholera from Wolcott's bees (Wolcott uses the Langstroth hive and lost over forty colonies last winter). From the description he gives of the symptoms of the bees that he lost, the case is similar. If it is the cholera, why did not the other two have it? And will not my whole apiary have it, for I allowed my bees to make free plunder of the honey that was left? I am so well convinced that it was the hive that I have no fears of the bee cholera from that source.

This is the third winter that I am using double-cased hives, and I have yet to lose my first swarm in them. As Novice says, I am so well rooted in this belief of my text that the shape and form of hive which the apiarian uses has a great influence on the loss or profit of bee-keeping, that the best antidote for that bee fever that I wrote of in a former number of the Bee Journal, would be to use the shallow hive.

JOHN MIDDLESWORTH.

Byron, Michigan, Feb. 11, 1871.

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The poets, always exalting and magnifying the subjects which they touch, have contributed perhaps more than any other set of writers to mislead our judgment. They endow the bee with memory, and Rogers thinks that it finds its way back to the hive by this faculty alone. Nor is it only with regard to the bee that poets, the worst entomologists in the world, have led us astray.—MRS. GRIFFITH.

[For the American Bee Journal.]

Things Past, Present, and Future.

It is now over thirty years since our experience with bees commenced here, among the hills of Northern Vermont. We had then no scientific bee-keepers to instruct us, and access to no books or periodicals devoted to bee-culture. Now, we have scientific and infallible rules for success, and line upon line for our guidance, and "the way is so plain," &c. How strange that so many in this new era spurn the proffered aid and follow the old "do nothing" plan, or what is even worse, recklessly ruin their bees by their inhuman interference.

We are now plodding along in the footsteps of our most illustrious bee-men, and our path is radiant with light reflected by our invaluable Bee Journal. Now, in this connection, will any one object to the expression of a long growing conviction, that there is one infirmity that should not be allowed to get "rooted," or become chronic. I refer to the controversies in the two or three last volumes of the Bee Journal upon patent bee-hives. This seeking an opportunity to give an opponent a *horn* too much; then the explanations and apologies that follow, remind me of the Yankee whose bull, getting the advantage, threw him over the fence, hurting him severely. The Yankee arose with difficulty, and turning to the bull, said—"Well now, I say it is devilish mean for you to stand there bowing and scraping at me. You did it on purpose, you know you did!" These things do not tend to "brotherly love," nor that "strong bond of union" which is the life of our fraternity.

Mr. Langstroth is entitled to sincere and heartfelt thanks for his successful labors in behalf of bee-culture, and most assuredly to all money due him, with interest. If he is the inventor of the movable comb frame, our obligations for that are inexpressible; but if only an improver upon the inventions of others, they should share the credit with him. Thousands will rejoice when the reading columns now devoted to personal controversies or advertisements of worthless complicated fixtures, are filled with simple talks and short direct inquiries for beginners in bee-keeping; then we can recommend it to such of our numerous inquirers. Oh, won't it be joyful! I use the original Langstroth hive, with glass boxes or extra set of frames; and think it unequalled for simplicity, cheapness, and in-door wintering. My colonies paid the best, in honey and increase, of any in Vermont reported yet.

We have organized a bee-keepers' association, and would like to have the address of bee-keepers in the State; also a statement of condition, progress, &c. Address,

O. C. WAITE,
Secretary of Association.
West Georgia, Vt., May 2, 1871.

[If our respected correspondent, who sees only the *published* controversial articles, could also see the large number of communications relating to the hive question still flowing in from month to month—for most of which we cannot make room, and many of which we are constrained to reject—he would be apt to conclude that the time for inhibiting or even more rigidly restricting discussion, has not yet arrived.—ED.]

[For the American Bee Journal.]

A Suggestion, to avoid Controversy.

MR. EDITOR:—With your permission, I will place before the readers of your valuable Journal, what I regard as being the duty of all persons engaged in the sale of patented bee-hives, and also the duty of those who purchase them. Let every patentee specify in his circular, as well as in his deed, precisely what his claims are; then let every person desiring to purchase the right, examine them in connection with the hive they are intended to protect. This will enable all parties to ascertain to what extent, if any, the hive itself infringes upon the claims of some one else.

It is claimed that many hives in use are infringements upon Langstroth's patent; or in other words, that they contain features not granted by the Patent Office, outside the real claims which have been granted; and which outside features are direct infringements of the Langstroth claims. Now, if any inventor or patentee wishes the law to protect what the Patent Office has granted him, he certainly ought to be sufficiently liberal to let the same law protect the claims of others. And in my opinion he will do so, if he is just; but he falls far short of this duty when he adds to his claims those of Mr. Langstroth or any one else, without stating pointedly what the hive he sells contains, outside of his own patented inventions, and which are infringements upon the patented claims of other parties. For when hives are sold containing the rights of different inventors, without advising the buyer of the fact, the latter is at once subject to the penalty of the law, if he puts what he purchases in use;—and this, too, in many instances without a knowledge of the fact that he has put in use in his hive features which are the property of others. Such a course on the part of hive dealers, when closely looked at, is certainly a gross violation of the true principles of justice, and cannot be treated with contempt sufficiently severe. Indeed, it occurs to me that the man who will ask the law to protect his claims, and then knowingly infringes upon his neighbor's, would spit tobacco in his best friend's eyes, and then complain if asked to submit to similar usage himself. I therefore hope that all persons wishing to use movable combs, will ascertain just what Mr. Langstroth's claims are, so that when any other hive is offered to them, they may be able to judge as to what extent, if any, it infringes on those claims. Then, if willing to purchase a hive containing such infringements, they will have no just grounds on which to base complaint of having been swindled or imposed upon.

I own some Langstroth territory, and find parties engaged in selling hives therein, containing infringements. In some instances, in order to effect a sale, agents have been base enough to assert to purchasers that the Langstroth patent has expired; in other instances they state that it does not cover any part of the movable comb. My own course is to state, in my deeds, what features I have for sale. I have a general agency for the sale of a hive containing patented features, and I have those features clearly set forth in each deed. As to what extent, if any, it may contain features of some other patent hive, I am unable to say; yet it does contain some that are in dispute. These, it is to be hoped, will soon be decided by a proper tribunal, when all can judge correctly as to what part of the movable comb is a valid patent, and what part, if any, is not. If it is decided that any considerable portion of the movable frame is protected by letters patent, then parties who have it in use in different forms, may know just what to look for, and to what extent they are infringing upon the Langstroth patent, and I do hope that Mr. Langstroth will get justice done him, be that whatever it may.

G. BOHRER.

Alexandria, Madison Co., Ind.

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[For the American Bee Journal.]

What More is Wanted?

There is an apparent effort on the part of some to make Mr. Langstroth, and perhaps others, think that I do not give him the credit of first introducing the movable combs to the public. What else can "Novice" mean on page 206 of the Bee Journal, where he says, "Had Mr. Quinby been at the Cincinnati Convention he would have found there is a very strong tendency to give Mr. Langstroth the whole credit of introducing the movable comb hive, now at least." Editorial notes on page 184 are of similar import.* Now I have no cause of quarrel with Mr. Langstroth, and I don't think he has any with me, and as I am a little weary of the subject, I propose to say definitely what I do concede to him, and will quote his own words from a circular published by him in 1867. He says—"Movable frames were used by Huber more than eighty years ago, and the first edition of Langstroth's work on bees, published in the spring of 1853, while describing them, gives ample credit to their celebrated inventor." He claims to have taken the crude arrangements of Huber and others, and made a convenient practical, movable comb hive of it, and introduced it to the public. Of this I have not a doubt, and I challenge "NOVICE" or any one else to specify where, or when, I have ever said or intimated anything to the contrary.† He applied for and obtained a patent, which he was of course entitled to, and I do not know the man that would withhold gratitude for the success he has achieved.

When Watts had given the hint of the power of steam,‡ and Fitch had completed an engine,‡ and Fulton combining other principles produced the steamboat,‡ could he—Fulton—claim all as the result of his invention? Neither can be credited with the river and ocean steam palaces of to-day. Mr. Langstroth made a great improvement, but he does not assume perfection. He says, on page 106 of his book, "I would, however, utterly repudiate all claims to having devised even a perfect hive." This is consistent, and if another makes a still further improvement, he is of course entitled to credit, and a patent if he wants it. All have the privilege of preferring Mr. Langstroth's hive to any other. If somebody finds one he considers nearer perfect, let him prefer that.

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* The editorial notes were not exactly "of similar import." They were intended to express surprise that Mr. Quinby insists on and persists in denying Mr. Langstroth's claims as *inventor* of the movable comb hive. If he is not the inventor, pray who is?—ED.

† There is such a thing as "damning with faint praise."—ED.

‡ Is this stating the case of these parties fairly, and doing them justice respectively?—ED.

Let us have peace. *If we have the good of bee-keeping at heart, instead of all dollars and cents, we must stop quarrelling about honors, and work for the good of all. I hope to do so.

M. QUINBY.

St. Johnsville, N. Y.

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* Certainly, let us have peace. There need be "no *quarrelling* about honors;" and laboring to ascertain historical facts is a very efficient mode of "working for the good of all."—ED.

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[For the American Bee Journal.]

More Facts and Fancies.

So far as my limited time would allow for such purposes, I have made some experiments and observations in the bee business the past season, and though I have developed nothing new or strange, I propose to give some of my experience, as such things from others are always interesting to me.

EXPERIMENTING.

Seeing a new settler, who had built a new house too late in the season for plastering, lining the walls with a thick pasteboard-like paper, I believe the idea struck me that it would make an excellent lining for a hive, as I had seen something about paper hives. I immediately procured some of it and put a lining in two hives, leaving a hollow space of one inch between it and the board sides. It looked very nice, and I thought I had a good thing of it. I also made movable sides of paper for a hive, into which I transferred a colony, being too impatient to wait for the swarming season. To my surprise, the little rascals commenced gnawing away the paper sides and throwing it out in chips like sawdust. I first thought that it was not possible for them to cut through such solid stuff; but on examination found holes through both sides nearly as large as my hand. I had to remove them and put in boards. But what should I do with the two new hives with paper linings? If I put bees in them, they would soon eat them out, and a fine place for moths it would be. Putting boards in its place would make the chamber too narrow. Seeing some china matting around an old tea-chest laying by, I thought that would be too hard for their teeth, and the quickest way to remedy it, would be to tack some of this over the paper, which I did. I have put in swarms, and they seem to do well so far. I have since seen it stated that this paper will become damp and fall to pieces. I will watch the result, but make no more paper hives.

THE QUEEN YARD.

Being anxious to prevent swarming in some of my colonies, I made and applied to two hives what Mr. Quinby calls a queen yard. It answered the purpose of keeping the old queen with wing clipped, from going off with the swarm. I think it probable, as some correspondent states, if the queen would try to get out she could. I saw her come out into the yard on two occasions, and soon re-enter the hive; but she made no attempt to get over the sides of the yard. The swarms, of course, returned to the hive. The "swarming fever" would get very high, and it lasted for several weeks; and although supplied with a large amount of surplus box room, they would neither build comb nor store honey anything like in proportion to their numbers, but lay idle in their boxes, waiting for a young queen to hatch. The hive must be carefully examined once a week, and all queen cells cut out. It is a nice job to examine a large hive teeming with its thousands of inhabitants, and be sure to get every queen cell. I tried to be particular, but one day I found the old queen and a fine large well-matured young one lying dead in the yard. I could find no young queen in the hive, but several cells nearly matured, one of which I allowed to hatch and supply the hive with a queen. Then the swarming fever ceased. The other old queen was also lost, but I could never tell how. She may have crawled over the sides of the yard, trying to follow the swarm, or the bees may have killed her and carried her off. I allowed a young one to mature and hatch, and supposing she was doing well, did not examine for some time, and then found the colony queenless and without brood. Whether lost on her bridal trip, or whether she went off with a swarm, I could not tell.

By the way, I never knew a queen with wing clipped, suffered to remain in a hive over twelve or fifteen months; sometimes destroyed in fall or winter, too late for drones. How is it with others? I applied these yards to my

QUINQUEPLEXAL, DUPLEX, COMBINATION HIVE,

an account of which I probably ought to give. Well, I have made no big thing of it. April 21st, transferred a rather weak colony to it. With a division board in and a little stimulating, they did well, and I added other frames of comb. June 4th, gave them their full complement of frames, by adding four frames full of brood, and soon after put on the side boxes. Swarmed June 19th, and again June 25th, each time returning. Clustered in the side boxes, but did not make much honey in them. When six boxes were nearly full, I put the top boxes on, (capacity about 35 lbs.,) going upon the principle that the more box room you gave them, the better they would work in them. They immediately entered the top boxes and commenced work, but did not make another inch of comb in the side boxes. This does not prove that they will work in the side boxes in preference to the top ones; nor do I take it as conclusive evidence to the contrary.—Became queenless, and ceased to work in boxes, but filled up the combs in the body of the hive, some of which I emptied with the honey extractor. Got only about thirty pounds of box honey and ten pounds of extracted honey, and some unfinished combs. As this does not "come up to the mark," I have determined to curtail its name and dispense with the "superfluous honey-producing" part, which I was led to give it from the fabulous reports of Mr. Hazen and others, as to what these side-gatherers would do. But, seriously, I hardly think it has had a fair chance, and I must defer judgment until further trial.

A TWO-STORY LANGSTROTH HIVE,

allowed to swarm once, together with its swarm in the same kind of hive, gave me the largest yield of honey, and more surplus honey in frames, in new comb of this season's make, than any four other hives with their increase, with only surplus boxes on top. I also took some honey from them with the extractor, late in the season. My memorandum of weights I regret was lost.

WINTER PREPARATIONS ON SUMMER STANDS.

My hives are all wintering on their summer stands, cloths spread over the frames, or over honey boards with holes open, and the caps filled with dry leaves. In some cases old bags filled with leaves or feathers are pressed down in the caps over the covered chamber on the frames. I have not seen leaves recommended for this purpose, but should think they would answer very well, as they are a good absorbent and warm. The caps have a lid or cover fitting like that of a bandbox, which makes them very easy to fill. The double-cased hives have the space filled with dry grass or leaves. With the honey boxes removed, and the space they occupied filled in, my quinqueplexal, duplex hive makes a fine wintering apartment; so, I have no doubt, does Mr. Alley's new hive. But when Mr. Alley made that comparison of his new hive with the fifty old Langstroth hives, and found the brood more advanced in his than in any of the others, I would ask him if those old hives had the same protection as his new ones? My two-story "low flat hives" have an outer case similar to his, with a space of four or five inches between all round. For wintering, remove the frames from the upper story, lay some inch strips across the frames below, spread a cloth over, and fill the upper story with dry leaves; also fill the space between the hive and outer case. These are now in proper condition to compare results with his new hive.

These winter coverings may be used to great advantage, to retain the heat in the spring and promote early breeding. When the spring examination is made, the honey-boards with holes all closed are fitted tightly in their places; the cloths spread on top the honey-board, and the cap filled with leaves, the same as it was in winter. This prevents the heat from escaping, and keeps the top of the hive warm, which may be readily perceived by putting your hand under the covering on top of the honey-board.

STRAIGHT COMBS.

I find a two-story hive convenient to get straight *all worker comb*, in this way: after the first swarm has issued, all queen cells but one are removed to prevent a second swarm. While the young queen is maturing, the most of the combs will be filled with honey, so that when she commences to lay there will be but little room for her to deposit eggs. Now remove two or three frames of honey to the upper story, and supply their place with empty ones, putting them near the centre, between combs already containing some larvæ. These frames will be filled rapidly with all worker straight combs, and filled with eggs as fast as made. The full frames placed above, will induce the bees to commence comb-building there. Combs made in the narrow frames of my combination hive were uniformly straight.

I am greatly indebted to the Journal for the receipt for making cement of lime and curd from sour milk, for fastening guide combs to frames and in surplus boxes. I never could have any success with wax or resin that had to be applied hot; but with this cement, combs cut into strips only two or three cells deep, may be very rapidly and securely applied to frames, and are preferable to any comb-guides I ever used, even when only every alternate frame is furnished with them. Small pieces of comb, only one or two inches long, can be used, and made to answer as good purpose as any other.

THADDEUS SMITH.

Pellee Island, Jan., 1871.

[For the American Bee Journal.]

John's "Facts and Fancies" might be Improved.

Page 232, Bee Journal, he says, "six years ago I got Langstroth's book, and studied it until I had it by heart." "Afterwards I got Quinby's." "It was midnight darkness about movable comb hives, and the modern improvements in bee-keeping." Of course, this means that I was then using box hives. Six years ago would have been about 1865. Quinby's book, published in 1859, contained an appendix with cuts describing fully a modified form of Langstroth's hive; and had then (1865) been before the public six years. A little obscurity here, if not midnight darkness. He says further: "It demonstrated this, that there never was a hive to equal the common box of the Quinby pattern." The first edition of the book in question, was published in 1853, recommending the common box hive as superior to any other in use at that time. In 1856, after reading Langstroth's book, and getting a favorable idea from him personally of the movable frames, I adopted them. A little experience convinced me of their utility, and I have used them since. Langstroth himself mentions my use of them in a note on page 331 of his work, (revised edition of 1859,) a fact which should not have escaped "John," with his intimate knowledge of that book. The appendix, indeed, to my book in 1859, has gone into the hands of thousands, and although it was not the first step taken, it was an additional one; and did, I trust, induce some to adopt them.

Has "John" done bee-keepers a service by thus misrepresenting facts? I would suggest that he pays more attention to "facts," and does not indulge quite so much in flights of "fancy."

Now this "modern improvement" has been my pet theme, and I am sanguine enough to feel that I have not labored altogether in vain, even though "John" fails to see it. One man that carried out some of my suggestions, realized the past season, on surplus box honey, over 25,000 lbs. from 315 hives. More than one-quarter as much as the 120 bee-keepers at Cincinnati from 5,051 hives.

Allow me to suggest to "John" that, unless he wishes to say something of which he is ashamed, his real name would be more satisfactory.

M. Quinby.

St. Johnsville, N. Y.

[For the American Bee Journal.]

Profit of Bee-keeping.

Mr. Editor:—I received to-day, from the Commissioner of Agriculture, the following letter:

"Washington, *January* 9, 1871.

Sir:—Will you be kind enough to furnish me with a detailed statement, from your own experience, showing the profit of bee-keeping, embracing number of swarms kept last year, cost of keeping, sales of swarms and honey, &c.? Such information as you may be able to give upon this subject, will be gratefully received.

Respectfully,

Horace Capron."

I send you enclosed a copy of the report I made in reply, which you may insert in your valuable Journal, if you think it will interest your readers.

As this report seemingly contradicts some of my former reports, I will add in explanation, that the season of 1870 was an extra good one; that I got the largest amount of my surplus honey from my outside apiaries; and that even in this extra good season, I had not over nineteen pounds surplus honey per stock, as an average yield, in my home apiary. The highest yield of strained honey from any of my stocks was one hundred and fifty (150) pounds; and the best yield of honey in the comb, one hundred and forty-six (146) pounds.

When I can find time to do so, I will write down my views on over-stocking, for your Journal.

Respectfully yours,

Adam Grimm.

Jefferson, Wis., Jan. 12, 1871.

REPORT.

Hon. Horace Capron,

Commissioner of Agriculture.

Sir:—It is with pleasure that I make the following report, in compliance with your request of January 9th:

In consequence of the total failure of the honey harvest of the season of 1869, the only one I experienced in twenty years, I wintered safely only six hundred colonies out of six hundred and seventy. These, with the exception of about one hundred, were in poor condition, some of them containing only about a teacupful of bees; and I subsequently lost about a dozen more of the number. Out of the remaining five hundred and eighty-eight, I sold, at the beginning of May, thirteen of the best colonies; leaving me five hundred and seventy-five living stocks. These, however, did not contain more bees than three hundred colonies contained the spring previous. During the month of May, I deprived thirteen colonies of their queens. These, and eleven more queenless colonies, gave no yield of honey or swarms, only a few more queens were taken from them. About fifteen more colonies were used to supply queen-raising nuclei with bees and brood, and gave no yield of honey or swarms—leaving, in all, five hundred and thirty-six (536) colonies to produce the surplus honey and the increase of stocks.

From this number of colonies we saved three hundred and thirty-eight young swarms, almost all natural ones. No swarms went away, though some united together, and were not separated in hiving. I had, therefore, after the swarming season, nine hundred and three (903) colonies. But this number is greater than any one apiarian can attend to, with such help as I want to employ. I therefore united, in August, one hundred and sixty-four (164) colonies; took the honey out of the combs by the melextractor, and saved the combs. The bees of nine colonies were sold and shipped off, leaving seven hundred and thirty (730) colonies for wintering in. In counting my yield of surplus honey, the winter stores of one hundred and seventy-three (173) colonies, united and sold, are included.

In common and good seasons the bees will always support themselves. There is no outlay for food, though hives and surplus honey boxes cost considerably. New hives are only necessary when the apiarian wants still to increase his stocks. In my case, I have to get up a number of stocks every year, to replace those that are sold. New hives with one set of honey boxes, cost me about $2.50 each, counting my own labor at $2 per day.

My yield of honey last season was as follows:

Box comb honey	11,500 pounds.
Prime comb honey in frames	1,500 "
Strained honey	7,725 "
Honey in old combs, in frames and hives	1,720 "
Used in family and given away	280 "
	22,725 pounds.

This amount would certainly have been doubled, if my stock of bees had been in good condition in the spring.

This honey is not yet all sold. All the white box honey, and all the white strained honey was sold, and some of the dark and mixed for $3,180, net. I have yet on hand 4,175 pounds, and in the hands of commission merchants, remaining unsold, 340 pounds of strained honey, making a total still on hand of 5,015 pounds. This honey, being mostly mixed and dark, will not bring much over fifteen cents per pound, deducting expenses, or about $750. No prudent bee-keeper, however, will sell all his honey. He ought to keep, in reserve for contingencies, about ten pounds for every hive wintered.

The average price for honey sold is about nineteen cents net per pound. Strained honey sells for about one-third less than nice honey in the comb.

The sales from my apiary, during the present season, figure up as follows:

For honey	$3,180 00
For queen bees and stocks	1,151 00
Add to this,	
For honey remaining unsold	750 00
Value of sixty stocks which I wintered more than the season before	600 00
Strained wax on hand, 206 lbs. @ 30 cts.	61 80
	$5,742 80

The value of surplus stocks is no guesswork.

I sold a few days ago, to two parties, two hundred and forty (240) colonies of bees for shipment to Utah, for $2,450; but these sales have to be counted with the present season's business.

The help I employ is the following:

A hired man the year round at about $350, board included. Four children from eleven to eighteen years old, during swarming time. They would cost me, if strangers, about $100, boarding included.

To this has to be added the outlay for hives, honey boxes, expenses for keeping a horse and wagon, postage for queen bees shipped by mail, and sundries. Not keeping account of these, I cannot tell exactly how much they amount to. Perhaps five hundred dollars ($500) would cover the whole.

I keep my bees principally in three locations, from three and a half to six miles apart, until after swarming time, when I scatter them still more. The greatest number of stocks I ever had in one location was three hundred and ninety-three (393). I find, however, that the yield of honey from such a number averages less than from a smaller number. One hundred colonies in one location is all that can be kept without materially injuring the yield of honey by single stocks. At three miles' distance, another hundred could be kept, and so on.

The Italian bees are favorites with me. I keep them exclusively.

Respectfully yours, &c.,
ADAM GRIMM.
Jefferson, Wis., Jan. 12, 1871.

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[For the American Bee Journal.]

How to make a Honey Extractor.

Several correspondents have lately made inquiries about honey extractors. I will give you a description of mine. I first made one with a wooden frame and wooden shaft, with wire cloth sides against which to lay the combs. This frame was made of a size suitable to hold a Langstroth frame set up endwise, say ten inches wide and eighteen inches deep, and made to revolve in a barrel. This worked perfectly well, but a friend wanting it, I parted with it, and made another on a different plan, using no wire cloth, no woodwork and no barrel. I wanted especially to be able to hang the frames in the extractor precisely as they hang in the hive. This would, of course, require a holder larger in diameter than a barrel. I bought a tub measuring twenty-four inches across, and had it lined with zinc, some sheets of which I happened to have on hand (tin would answer as well); and as the tub was too shallow (only twelve inches deep), I had the zinc extend up above the sides three inches, making the depth fifteen inches. In the middle of the bottom solder a tin or zinc tube, three-quarters of an inch in diameter and four and a half inches high, to hold the foot of the shaft in place, and to keep the honey away from it. Through the side of the tub, and near the bottom, bore an inch and a quarter hole, cut out the zinc and solder in place a tin tube or spout for draining off the honey into bottles. Mine is made just large enough to receive a common molasses faucet, which works well.

The framework which holds the comb and revolves with it, consists, 1st, of a shaft made of a piece of quarter inch gas pipe, eighteen inches long, plugged at the lower end with a piece of iron, turned or filed to a point, on which the whole framework turns. 2d, two pieces of flat bar iron, say eighteen inches long, an inch and an eighth wide, and one-eighth of an inch thick. Bore a hole in the middle of each of these pieces, just large enough to pass the gas-pipe shaft through. These two pieces are made of pretty stiff iron, so as to be strong enough to hold up the rest of the framework, and also the heavy combs that are to be emptied of honey. The rest of the frame is made of white wire clothes-line (thanks to Novice for the idea), requiring of it for my machine twenty-eight feet. Cut off two pieces, each five and a half feet long, and straighten them. Twelve inches from one end make a right-angled bend; at eighteen inches from this, make another; at twelve inches, another; and again, at eighteen inches, another. Solder the extra six inches along the first side. We have now a rectangular wire frame twelve inches long on two sides, and eighteen on the other two. Bend the other piece of wire in the same way, and solder as before. Now cut twenty pieces of wire, each ten and a half inches long; straighten them; then bend a quarter of an inch (in a vice) at each end, at right angles, ⌴. Lay one of the rectangular frames on a table, and hold the other exactly ten inches above it. That is precisely the position in which they are to be fastened together, and this fastening is accomplished by soldering the twenty pieces, at intervals of two inches apart between the eighteen inch sides,—ten on each side. These upright wires take the place of wire cloth in other extractors. You can use wire cloth in this if you prefer. I like wires better. Now fasten the two pieces of flat bar iron to the middle of the twelve inch sides, by soldering, or by turning the ends of the bars over the wires and clinching them, one to the lower pair, and one to the upper pair.

To stiffen and prevent the sides from sagging, solder a wire to the lower corner of each end of the framework; pass it over the top bar, solder it there; pass it down to the opposite lower corner, and solder. Put the shaft through the two holes, and solder it to the two bars, in such a position that the lower bar will just clear the top of the tube in the bottom of the tub. Make a cross-bar of wood, two inches wide, and long enough to reach between the wooden handles of the tub, to which it is to be fastened. Bore a hole in the middle of this bar large enough to admit the shaft in the tube; put on the wooden cross-bar, and fasten it in place, with the shaft through the hole; insert your crank in the hole in the top of the shaft, and turn away.

The dimensions given, fit the standard Langstroth frame, eighteen inches long and ten inches deep. If your frame is shorter, make the eighteen inch sides enough shorter to accommodate it, and the twelve inch sides can be made correspondingly longer, which is an advantage, as the further the frames are hung from the shaft, the slower the required motion may be. If you intend to use the extractor extensively, it is undoubtedly best to use gearing instead of a crank, for, after some time, the rapid motion of the crank becomes tiresome. For my use the crank is sufficient. If your frame is much deeper than ten inches, you would require a tub more than fifteen inches deep. The top of this extractor can have a perfect cover. If you think you need one, put one on; but do not fasten it with hinges. Have it removable at pleasure. If desirable, you could use wood for the shaft and the two bars. You might also use a tub (a new one) without the zinc lining, or the lining without the tub. I like mine just as it is.

R. Bickford.

Seneca Falls, N. Y., Feb. 6, 1871.

[For the American Bee Journal.]

Reproductive Organs of the Queen Bee.

In these organs there is a difference between the impregnated and the unimpregnated queens, perceptible even by the naked eye. At least in one particular I have noticed a difference, of which I will here make mention, showing that the commonly accepted theory as to the "*modus operandi*" of how the queen can lay two kinds of eggs, drone and worker, is tenable.

Not being well acquainted with the anatomy of the bee or with anatomical terms, I will try to make myself understood independent of those terms.

Any one who has ever opened the abdomen of the queen bee, and examined the parts with ordinary minuteness, has no doubt discovered, in the region nearest the extremity, a small round something about the size of a mustard seed, in connection with certain other parts there found. In a quite young queen, or one unimpregnated, I have always found this little ball (as I will call it) in appearance transparent like clear water. In fertile or impregnated queens, I have always found it in appearance the color of milk. I have examined quite a number, always with the same result. I am satisfied that *age* does not cause this difference, because in examining *drone-laying* queens of considerable age, I find this "ball" of the same clearness as in the queen just taken from the cell; and in young fertile queens I have found it to be of a milky color, the same as in older queens.

By a process in harmony with the structure of the queen bee and her instincts, she can deposit eggs in drone cells without their necessarily coming in direct contact with her fertilizing powers; consequently they will produce the same kind of bees (drones) as though she had never been impregnated. And in depositing her eggs in worker cells, they become so far fertilized as to produce workers (imperfectly developed female bees). Such seems to be the nature and instinct of the bee. Marvellous in our eyes are the works of God.

J. S. Flory.

Fayetteville, West Va.

☞ It is on these facts, first noticed and fully described and explained by Dzierzon, that the "Dzierzon theory" and the modern or scientific system of bee-culture are founded. The discovery shed a flood of light on what was "mystery" before. The existence of the spermatheca was previously known, but it was supposed to be designed to furnish the passing egg with a coating of glutinous matter to secure it in proper position on the base of the cell. Dzierzon's conjecture that its contents were seminal matter derived from the drone, met with strenuous opposition in various quarters, till Prof. Von Siebold settled the question by means of the microscope, showing the existence of spermatozoa in worker eggs, and their absence in drone eggs, and the identity of these spermatozoa with those found in the semen of drones, and in the spermatheca of the queen after fertilization.—[Ed.]

[For the American Bee Journal.]

Various Particulars.

Mr. Editor:—It being over a year since I wrote to you and renewed my subscription, I will now try to do both, and ask you to forgive me for not doing it sooner. Remember that I intend to take the Journal as long as I keep bees, and that will be as long as I live; so, if the Journal is running, I shall be taking it.

I intend to write a little of all sorts for the Journal now. If you see fit to put it in, do so. To begin where I left off a year ago, I shall state how my bees wintered in 1869-70. I put some seventy stocks into winter quarters, in good condition so far as bees were concerned, but not well supplied with honey, for the previous season was poor in this part of Wisconsin, and very wet. Hence the bees came out weak in the spring. I lost fourteen stocks, which was no great loss after all, for I saved all the combs to put swarms in, and I had plenty of these in the summer of 1870—which, by the way, was the best honey season I ever saw. Well, as I said, they came out poor, and I had of course to resort to feeding. There being not any fat ones among them to take frames from, I had to feed the poorest some other way. I purchased some sugar, dissolved it in water, and mixed some honey with it as long as I had any. Afterwards I fed it clear, using bee-feeders similar to those described by Mr. Langstroth. The bees increased rapidly and commenced swarming on the 13th of May. The way I managed through the swarming season is this: I cut my queens' wings in the spring when I overhauled the stocks to cut out some comb and introduce worker comb in its place. I keep my bee-yard seeded down to grass, and the grass cut short. I like this better than Novice's sawdust; anyway, it is not so liable to catch fire and burn up my bees. When a colony swarmed and the queen came out she crawled as far as she could on the grass, and of course I was there to assist her majesty. I generally put her in a queen cage till the swarm alights, and then put her with the bees. The first thing to be done is to secure the queen, that is when she starts to come out; and the next is to remove the old hive and substitute your new hive in its place, and when the bees commence to return put your queen on the bottom board, and your swarm is hived. Take your new swarm and place it where you like. Or if your bees alight on a tree, carry your queen there, and hive the swarm. That's the way I manage my bees. Where swarms are numerous I do not know any better way to do so, without trouble and vexation.

Well my bees kept on swarming last summer, until I had filled all the hives I had calculated for new swarms. In the first place I made several artificial swarms, so as to get a little the start of the bees; but it did not make much difference with them, for they got ready and swarmed within a week or two as quick as the others. So I hived a number of them together, uniting sometimes two and sometimes three of the swarms, taking away all the queens but one, and putting on surplus honey boxes at once—removing the honey-board and setting the boxes directly on the frames.

I increased my colonies from fifty old stocks to one hundred, and obtained two tons of surplus honey, all in boxes, except eight hundred (800) pounds taken out with the machine. The most taken from any one hive was one hundred and fifty (150) pounds.

I wish some one would communicate through the Journal how to keep the bees from swarming and throw their whole force into the surplus boxes, without queen-yard or queen-cages. I should be thankful to receive such knowledge. Another thing—I should be thankful to know how to keep my bees cool enough in my winter repository, in a warm spell such as often occurs in the winter. The room that I keep them in is ten feet by twenty-four, inside measure, with five ventilators overhead. One of these, six inches square, running up through the roof; another, one foot square, through the floor and sawdust; and one coming under the ground, four inches square, inside measure. With all these open in a warm still time, the bees get too warm. If I should open the doors at night they would warm up in daytime, and I might oversleep and let daylight in and the bees would leave their winter quarters.

ALBERT POTTER.

Eureka, Wis.

[For the American Bee Journal.]

Chloroforming Bees.

I cannot conceive why the use of chloroform should be proclaimed objectionable in taming or subduing bees, unless it is that, in applying it for that purpose, bee-keepers generally have not understood what quantity to use, and for what length of time. With me it has proved the very best of bee charms. You can render your bees merely drowsy and good natured, lay them fast asleep, or bring them to the snooze that knows no waking. It all depends on the quantity administered, and the time they remain exposed to the fumes of the chloroform. Chloroforming bees, as described Vol. V., page 142, of the Bee Journal, is chloroforming with a vengeance and sure death.

Since 1863, studying and adopting the plans laid down in the Patent Office Report (Agricultural Part, page 89), I substitute for the table, a bottom-board to suit the size of the hive to be chloroformed. A tin or wooden dish, ten or twelve inches square, is tightly fitted in this bottom-board, and I nail a three or four inch cleat at each end of the lower side of it, to raise it from the ground and keep it from warping. In the middle of this dish put the small plate to be covered by a funnel-shaped piece of wire-cloth, after it has received the *one-sixth part of an ounce* of chloroform, which is an ordinary teaspoonful, and enough I think for most hives when perfectly closed with cloths or blankets, to prevent escape of fumes. I set the hive to be chloroformed directly over the dish in the bottom-board, and in from ten to twenty minutes the bees will either be harmless or lay fast asleep in the dish below, according to the degree you wish to have them initiated into the mysteries of chloroform. But after being brought to the fresh air, they will soon awake and revive. For further particulars, see Patent Office Report for 1860.

If the object is to deprive the swarm of honey, without the visitings of its wrath, the most timid can thus obtain, with this fragrant anæsthetic, a well-flavored sweet article, and not an ill-scented, repulsive nauseous mess, ungrateful to the taste and unfit for man or bee, as is the case when using tobacco, puff-ball, sulphur, or any other smoke. Any hive, with or without movable combs, that has a movable bottom-board (and no hive should, in my opinion, have a stationary one) can easily be brought under the influence of chloroform. No trouble and no harm to the bees, applying the quantity during the time above specified. It will not poison the hive, the bees, or the honey.

I have thus united stocks, removed old queens, and the Salic law not being in practice or custom with the courteous creatures, I have introduced either strangers or young fertile princesses to fill the throne of Beedom, and performed in fact anything desired, without ever having had any bad results or discovering any deleterious effects from the use of chloroform to the bees, the hive, or the honey. When the hive is a movable comb one, the frames may be taken out, examined, and returned at leisure. It is perhaps true that the bees seem to remain for a day or two only, after the operation, under the soothing and calming effects of the chloroform, being less irascible, quite tame, subdued and tractable. Never fear, however, their little temper will soon return, and they will not feel the worse for it. I have no doubt that if the required number of fertile queens can be obtained and kept in readiness in the fall, say from the middle of September to the middle of October, before it begins to be too cold to operate, and there being then little or no brood to endanger, when the drones have made their exit, a whole apiary could thus be safely and expeditiously Italianized, and the whole household of the hive, drones and all, would be Ligurian the next spring following.

> "These, gaily bright, their radiant scales unfold,
> Spangled with equal spots, and dropt with gold,
> These, the selected race, with grateful toil
> Shall duly yield the sweetness of their spoil."
> VIRGIL GEORG, IV.

The old queen usually lodging near the top of the hive, is often one of the last to fall, and can easily be found and removed. I never protract chloroforming beyond twenty minutes, by the watch. I then look for the old queen, and being removed, I keep her for contingencies in a wire cage. I now replace the hive on its stand in the yard. The swarm to have a new queen introduced to, or the swarms to be united, are then put and spread out in a box some two feet square and seven inches deep, confining the bees therein by covering it with a wire-cloth frame, meshed seven or eight to the inch. Immerse the queen to be introduced in honey, and being thrown among the bees in the box, she soon acquires the same chloroform perfume of the swarm she is given to. The free circulation of air in the box soon revives the bees, and they will clean the new queen and cluster together in the box, when they can be hived again on their stand in the yard. Swarms, to be united, are proceeded with in the same manner, hiving them in the hive in the yard, where intended to be wintered. This hiving is done by merely spreading a sheet or placing a large, wide board before the hive, raising the hive one inch in front, and shaking the bees out of the box, before the entrance of the hive. They will readily enter the hive, which is then lowered again tight to the bottom board. There is no further trouble, except perhaps the watching of robbers for a day or two, until the swarm is fully reorganized and returned to its former habits. I must state, however, that if it should happen that no queen could be found, I believe that the young royal lady to be introduced in the realm of beedom, being in the full strength and vigor of youth, would promptly master and overpower any competitor yet drowsy from the lingering paralyzing effects of the chloroform, and the workers all too confused or too *glad to think they are alive*, that it is some time before they can muster any inspiration for fighting.

The foregoing detailed process is certainly preferable, in my humble opinion, to the one described, practised, and recommended by Mr. H. C. Barnard, and which is said to be friend Alley's plan. [See Amer. Bee Journal, Vol. V., page 256.] Think of it, putting the queen to be introduced in her cage, and laying it on the top of the frames, &c. Then blowing tobacco smoke into the entrance of the hive for three or four minutes. Now stop awhile, and resume blowing in smoke for five or ten minutes, or until the bees commence to fall down and crawl out of the hive. I have in former days practised some such things myself, and I have often wondered that any bees survived the operation, or could remain alive in a hive that must have been redolent after the process, and worse scented than the tobacco Parliament chamber of the father of Frederick the Great.

I do not intend by the foregoing to convey the idea that I would drive away entirely from the bee-yard, smoking or the use of a little smoke. For minor operations in handling and managing bees in the apiary, it is sometimes found very handy and accommodating, and especially so where chloroform cannot conveniently be used. But I must condemn the converting the hive into a smoking room, rendering the combs and the honey repulsive if not poisonous to the bees for a long time thereafter. For such wholesale purposes the use of chloroform is far preferable and wholesome, in this, that it subdues equally as well, but leaves no disgusting or offensive smell behind. The chloroforming should not be prolonged beyond twenty minutes, rather less than more; never be carried to the sweating point, when you will lose many bees. A little experience will soon teach you how far to proceed for the purpose intended. Within my experience, I cannot agree, however, with the Scotch experimenter, that all the bees leave the combs and fall helpless on the table. A great many may sometimes take refuge in the empty cells, to get away perhaps from the fumes. The larger the swarm, and the more the bees are spread out after the operation, the quicker they revive. JOHN N. ROTTIERS.

Lafargeville, N. Y., Feb. 1, 1871.

[For the American Bee Journal.]

Arresting Absconding Swarms.

MR. EDITOR:—You cannot imagine how much I value your paper. In my boyhood, my father kept bees, and I then became so familiar with them that I have so little dread of stings as to neglect to a considerable extent the precautions laid down in the books, and have always been able to do as I pleased in handling bees.

I have never had a swarm to leave a hive and go off, without first alighting. My impression is that the old-fashioned practice of tanging proceeds from a correct idea; that is, that a swarm will always alight when thoroughly alarmed, so as to disconcert them. The past season I used a large mirror and stopped by that means a swarm, which I had hived a few days previously, and which started to go off. I ran after it, flashing the sun's rays among them most thoroughly—the mirror being fourteen by twenty inches square. I stopped them on the last tree in the vicinity, and in five minutes had them nicely hived. I have frequently stopped them by throwing water, chips, or dirt among them, when starting to leave; and once when passing overhead, as I was bringing corn home. But I failed once, last summer, with a swarm that had come out and alighted unobserved by me. The first I knew of it, it was taking wing from a tree near my apiary, and I think it must have waited for me over night, for it was quite early in the day for a swarm to come out and then leave. I did as in the other case, but the more I flashed the faster they went. I think it must have been an after-swarm with a young queen, as I found no signs of a swarm having left a hive that had not swarmed before, and found one that had swarmed previously, much more depopulated than it should have been.

By the way, are not swarms with young queens more capricious than first ones? Speaking of swarms leaving, I will give to the public a method which I have never had an opportunity of trying, but which was told to me many years ago by a very successful apiarian of my native place, in whom I had great confidence. He told me that by practising it in the presence of a superstitious neighbor, he got the name of a *wizard.* It was a case where the swarm left without alighting, and the neighbor attempted to follow it. If I remember rightly, he stopped the man, saying he would call the bees back. His method was simply to remove the old hive from the stand, and set in its place another as nearly like it as possible. His theory was that the swarm keeps up a communication with the old hive for some length of time, and the messengers, finding the old hive gone and a good vacant one in its place, would return to the swarm, and in bee language tell the queen that the coast was clear at home and they had better go back. I think he must have been in the practice of using bee-balm, as the use of it was common among bee-keepers there in those days. I have often thought I would try the plan, even if it should set the old stock back somewhat. Perhaps some bee-keeper may have an opportunity to test it and report.

H. HUDSON.

Fenn's Mills, Mich.

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Every living thing, from man down to an ephemeral insect, pursues the bee to its destruction for the sake of the honey that is deposited in its cell or secreted in its honey-bag. To obtain that which the bee is carrying to its hive, numerous birds and insects are on the watch; and an incredible number of bees fall victims, in consequence, to their enemies.

[For the American Bee Journal.]

House for Wintering Bees.—A Suggestion.

MR. EDITOR:—I see there are almost as many different plans for wintering bees as there are people who keep them. Some prefer a cellar, others a building constructed specially for the purpose. Some succeed well in burying them in clamps or in trenches; others again are successful in wintering them on their summer stands, with some peculiar arrangement or construction of hive. We also see almost every conceivable material used in the construction of those special repositories or hives. Thus, we have stone, brick, earth, boards, and tanbark or sawdust, concretes, adobe, gravel walls, &c., of the former, and boards, plank, calcined plaster, straw, corncobs, carpets, &c.; some with dead air space of from one-sixteenth of an inch to two inches; some wholly of paper, carpet, corncobs, &c.; others lined or covered with such materials. Now it is not the intention of the present article, to express an opinion as to which of the above enumerated plans is best. That must be determined by the location and the surroundings of the apiarian, or by the means or particular fancy and skill of the bee-keeper. But there are certain fundamental principles which must be observed in order to winter our bees successfully. We must have a suitable cluster of bees, with sufficient stores of honey within their reach, and with proper ventilation. I believe a swarm thus prepared will winter almost anywhere. I wish, however, to bring to the notice of my bee-keeping friends a new combination of materials for the construction of a building in which to winter bees, or to manipulate with them in the summer, to transfer in when other bees would rob if the operation were done out of doors; or you can build yourself a house, to live in if you please. The articles referred to are nothing more than common stove wood, sawed to the length of the desired thickness of your walls, split up about two inches square, and laid up in lime mortar. Any person with skill enough to make mortar and pile wood, can lay up the walls of such a building. He might require the assistance of a carpenter, to make the window and door frames, to lay the floors, and construct the roof. An operative mason may also be needed to plaster the walls inside and out, and give it an artistic finish to your liking. But when it is done, the walls will not *sweat* in damp weather like brick or stone. At least I am told such is the case with buildings so constructed in this vicinity. We have a large two-story dwelling-house, with a cellar under the whole, in the village of Deerfield, Lenawee county, Michigan; also, a dwelling-house in the village of Petersburg, Monroe county, Michigan, constructed on the above plan; and they are giving good satisfaction. The foundation and cellar walls are plastered with water lime. Any person who understands building concrete walls, will readily understand how to construct a building on the above plan. You can plumb your corners, set a wide board on edge from one corner to another, and pile your wood right against it; and by putting the mortar on each end of the wood and none in the middle, you can make what is called a "hollow wall."

I do not claim that the above idea originated with me, but it was through my influence that the aforesaid buildings were erected; and they are giving good satisfaction. I have already written a longer article than I intended, and will close.

John T. Rose.

Petersburg, Mich.

[For the American Bee Journal.]

The Bee Palace.

Mr. Editor:—Did you ever see the Bee Palace? It is patented, of course—there is no hive but is. We are not going to describe it in detail, being satisfied that none of the readers of the Journal would want it, for the reason that it does not infringe on the Langstroth patent. Don't understand us to say that we think the readers of the Journal would infringe on the Langstroth patent, but that they will use no other than a movable comb hive.

The Bee Palace is not a frame hive. It was introduced into this section of country two years ago, by a Mr. Black. If he had attached *leg* to the Black, it would have been most appropriate. The general shape of the Palace is similar to a small church steeple inverted, with legs to it.

We were favored with a call from this worthy Black-*leg* with a load of his Bee Palaces. He set one of them on the ground, and discoursed about as follows:

"This is the best hive in America. With it you can manage bees with less trouble and expense, and more profit, than with any other hive. Here is the swarming-box. All you have to do is to put this on the top of the hive, and when the bees get ready to swarm, they will go up in the box. You can then take them off and hive them. In this way you make all your own swarms. No watching bees, or any danger of losing swarms. There is no other hive from which artificial swarms can be made so easily. Here, too, are the surplus honey-boxes, on the sides of the hive. When one set is filled, you can take them off and put on others. The side of the hive is the best place for honey-boxes. Bees will store twice as much honey at the sides as they will at any other place. Here, also, is the miller-trap below—sure to catch every miller that comes round. The hive is warranted to be moth-proof, or no pay. A farm right with our hive is only forty dollars; with two hives at forty-five dollars."

We did not appear very anxious to invest. He finally proposed to give us one, if we would put bees in it and try it; but as we had no bees we wanted to kill, he loaded on his Bee Palace and drove off, remarking that he "never could sell to persons using the movable frame hive." He did sell to one of my neighbors, however. The swarming arrangement just suited this man, as it was always a great deal of bother to watch the bees. He took two Palaces at forty-five dollars, put his bees in them, and has had his swarming-boxes on for two years; and if he don't get to heaven before he gets a swarm in that way, we think he is a subject for prayers. Another man was taken with the moth-trap. That was just what he wanted. But you see he was a little sharper than the first purchaser; he was not going to pay till he tested it. So Mr. Black made out his warrant and the farmer his note, and they exchanged papers. The result was that after Mr. Black had canvassed the county round about, he sold all the notes he had taken, and left for parts unknown. So the first thing Mr. Farmer knew he was sued, and to his great surprise found that the warrant is no off-set to the note in the hands of a third party. So he had the forty dollars with interest and costs to pay. This man subsequently bought the Twining humbug and six secrets (ventilated in the Bee Journal last December). We asked him, why, having been bit once, he would buy another humbug. "Well," he said, "it was so much cheaper, *only* ten dollars." There is no rule by which to govern a fool.

Beeist.

Lawrence, Kansas, April, 1871.

[For the American Bee Journal.]

Two Queens in one Hive.

I occasionally see an account of two queens being found in one hive, but in each case the circumstances seem to be very different. In my short experience in bee-keeping I have had two such cases, which differed much from each other and from any that I have seen reported. The first was like this: A strong colony of black bees made extensive preparations for swarming in June, 1870, by starting a large number of young queens. I usually do my own swarming, but thought, in this case, I would let the bees have their own way and swarm naturally. But Nature "to all things sets her limits fit," and here it did not seem natural for them to swarm. After waiting eight days from the sealing of the queen cells, I made an examination, and to my surprise found the old and two young queens at liberty on the combs. That evening I heard piping, the same as for after-swarms, which continued for five days. Then it ceased, and eleven dead queens were thrown out of the hive. It was easy to account for their not swarming; but singular that they should preserve hatched queens so long, in the presence of an old laying queen.

The other case, again, was under entirely different circumstances. About the first of last August, I took a queen (Italian) from a nucleus swarm, giving it two eleven days old twin cells, that were built so close together that I could not separate them without injuring one or the other. The fourth day after I examined the nucleus and found both queens hatched, and saw them side by side, apparently as friendly as two workers, without any inclination to fight. I was then called from home, was absent a week, and on my return examined the nucleus and found *both* queens laying eggs. I then took the comb on which the two were at work to my house, to show them to my wife that I had got something that would beat Quinby, Langstroth, and all the rest of them. While we were looking at them, the two queens came together, embraced each other in the most friendly manner, then turned away, and each laid an egg within an inch of where they met. Money would not have bought either of those queens, at that time; but what was my chagrin the next morning to find one of them just expiring in front of the hive. This leads me to believe that queens are not such bitter enemies of each other, as we are told they are. The dying queen had evidently not been stung. I have frequently tried to witness the battle of queens, but have never yet seen the sight. I have often seen the workers destroy a queen by strangulation, while another queen had her liberty in the same hive; and in one instance there was not a half gill of workers present.

E. Benjamin.

Rockford, Iowa.

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[For the American Bee Journal.]

Foulbrood.

Mr. Editor:—We find in almost every number of the Journal an article upon this deplorable malady, and also different ways of getting rid of it.

As I have had some experience with this disease, of course I have been interested in these articles.

I presume my experience with it has been more limited than many, from the fact that I have never had a very extensive apiary. But, to say the least, I do not care to extend my observations, as I am entirely free from it now.

My attention was first arrested about six years ago. In the spring I bought some stocks from a section about fifty miles away, and transferred them to movable comb hives. In the fall following, while examining them preparatory for winter quarters, I discovered a few scattering cells containing sealed dead brood. It occurred to me at once that this might be foulbrood. The next season it increased. I commenced to cut out the diseased brood, but soon found it was of no avail. I began to search for a remedy in what *bee literature* I had, but could not find anything which looked effectual.

I kept all my stock until another season, and became convinced it was of no use to try to cure it, as all the stock of my home apiary were diseased, more or less.

In the fall I destroyed nearly all of the bees, took the honey from the combs with my honey slinger, and made the combs into wax, and burnt up all the frames.

Some of the hives I scalded thoroughly with hot water; others I held over a blazing fire until the propolis melted.

I have used some of these hives, but have never discovered anything of the disease. Some of the bees, instead of destroying, I put into a box and kept them several days, supplying them with dissolved sugar, and then united them with some healthy stocks; and have not discovered any unhealthfulness in consequence. I removed a queen from a diseased stock to a healthy nucleus, and discovered in a short time that I carried the disease with her.

I think that unless the disease is in too bad a state or form, that the bees might be saved by treating them as above, and placing them in a clean hive; but I think it would be a good deal of trouble to cleanse the comb so it would be safe to use.

I would advise every one who discovers this enemy in any stock, to destroy the comb and honey at once—unless the honey can be scalded before the bees can get to it—and perhaps the bees too, and thoroughly cleanse the hives before using.

C. B. Biglow.

Perkinsville, Vt., May, 1871.

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[For the American Bee Journal.]

A Transferred Colony Deserts its Hive.

A number of years ago I had a colony of black bees, which I concluded to transfer into a movable comb hive. It was a good colony, with an average amount of brood bees and honey. Drumming out the swarm first, I broke up the box, cut out the combs, and fitted into frames as well as I knew how. To fasten these combs I used linen wrapping twine. Everything being ready for the bees, I put them in, and set the hive directly on its old location. In the evening of that day I found the bees very uneasy and dissatisfied. On listening at the side of the hive, I heard them making a singular grinding noise. Next morning I examined that stock, and found the bees in the same condition. I then pulled out some of the frames and found that they were trying to bite off that twine, though their efforts seemed to be fruitless. A small number of the bees got portions of the twine in their mandibles, without being able to rid themselves of it again, and were dead—having probably starved. This state of things continued for two days. I could not remove the twine, as the combs were not yet properly fastened. In the forenoon of the third day after transferring the bees they swarmed out. I hived them again in the same hive, but next day they swarmed out again and joined another stock. There was no doubt in my mind that the fruitless attempts of the bees to remove the twine had caused the desertion of the hive. Now, and ever since that time, I use thin and narrow slats—one-sixteenth of an inch thick and about one-fourth of an inch wide, with which I fasten the combs into frames when transferring—placing them over the pieces of comb and nailing them to the frames. No transferred colonies, with combs thus secured, have since deserted their hives.

A. Grimm.

Jefferson, Wis.

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Man can accommodate himself to every variety of diet, and thrive on all. The bee, alone, never changes its food.

THE AMERICAN BEE JOURNAL.

Washington, June, 1871.

☞ Want of room compels us to omit a number of advertisements this month. The reader will understand that they are *not* withdrawn.

☞ We again caution bee-keepers against suffering themselves to be *blackmailed* by parties offering to sell rights or demanding pay or damages, under pretext of the Clark patent, for the use of the triangular comb-guides, or any similar device for securing straight combs. The Clark patent was improperly granted, is utterly invalid, the decision of the U. S. Court in its favor was fraudulently obtained, and those exacting "royalty" for the guides are guilty of procuring money under false pretences. Clark or his assignee will never institute *and prosecute* suit against any one resolved to resist the demand, as that would bring the matter again within purview of the Courts.

☞ Mr. D. L. Adair, of Hawesville, (Ky.,) claims to have a patent for a bee-feeder substantially similar to the one described in the April number of the Journal, as the invention of Mr. Hershey, of Mountjoy, Pa.

☞ We inadvertently omitted to say in our last issue that Mr. Gravenhorst, though not making a business of raising Italian queens for sale, is willing to serve the bee-keepers of this country by procuring for them pure Italian queens from Dzierzon's apiary, at customary rates; or will send queens of his own raising, if desired, at four dollars each, in gold. He could not, of course, insure safe transportation by steamer, but would use every endeavor to have the queens sent and reach their destination alive and in good condition. Egyptian queen bees, also, would be procured from the apiary of F. W. Vogel, at ten dollars each, and forwarded with despatch. Mr. G.'s address is C. F. H. Gravenhorst, Kleiner Exerzierplaz 8, Braunschweig, Germany.

☞ We have received letters frequently of late from persons whose minds seem exercised on the hive question by an anxious desire to give "honor to whom honor" is due, though they have been led to imagine that Huber, Munn, Debeauvoys, or somebody else, is entitled to the credit of inventing the movable comb-hive. To such inquirers we would say that we intend to take an early opportunity to give an account of the inventions of the parties named, with accurate cuts and illustrations. Meantime, we beg to assure them that none of the devices and contrivances referred to are patented, but are public property, available for practical ends by anybody who chooses to use them. Let any one who desires make an exact and perfect imitation of any or of all of them, and introduce them in his apiary for trial, without the least apprehension of infringing anybody's rights. For economical and prudential considerations, however, we would suggest that he make *only one* of each kind; and we will guarantee that, after subjecting them to a fair test, he will—*never desire to make or use a second.*

☞ If, after drumming out a swarm, it is found that the queen is not among the bees, and the number of the latter is sufficient for a good colony, place the driven swarm where the parent hive stood, and remove the latter to a new location; supply the swarm at once with eggs and brood to raise a queen; and if an advanced maturing queen cell is available, insert it on the second or third day.

CORRESPONDENCE OF THE BEE JOURNAL.

Tiffin, Ohio, April, 17.—There is quite a demand for ring-tailed hogs in this nook of the woods. It is proposed to train them to walk up a few steps and hitch their tails to the suspended hooks, and then feed as per patent—thereby saving time in hooking or tying the tails three times a day, every day. There is no telling to what extent a hog can be educated, some having, as is well known, been taught to play cards, and tell the time of day by the dial of a watch. Some say bees cannot be educated. I say they can, and to have them store honey in the side frames takes training. Yet the life of the bee is too short for much to be done in that line in one generation, for like Paddy's horse, which when once he got used to do without eating, took a notion to die, so the best taught bees are apt to die soonest.

Last summer was the best honey season I ever saw. I won't say how much honey I took from some of my best colonies, for fear of not being believed by old fogy bee-keepers. Bees are doing remarkably well at present. Success to the Journal. J. J. Fisher.

Bricksburg, N. J., April 17.—We have had a much more quiet and favorable spring here than one year ago. The means I indicated for spring management here, have been of much benefit; as I will describe in future. We had fine, warm summerlike days in succession, commencing April 7th, which gave quite a start. I have transferred most of my bees to nucleus hives, putting as many of such hives together as may be necessary for the convenience of the swarm. This will render transportation cheaper and safer. J. L. Hubbard.

Amesbury, Mass., April 20.—My bees are in fine condition, and the hives are rapidly filling up with brood. I hope to report early swarms, and a good yield of surplus honey. A. Green.

Edgefield Junction, Tenn., April 20.—I sent you per mail this day, a honey and pollen producing plant, or weed, of great value to the bee-keeper, which I wish you to name. It came spontaneous last fall, just after the breaking up of a meadow. It lived through the winter, bloomed in the latter part of February or early part of March, and has been in continuous bloom since. The bees have worked on it every fine day, for more than six weeks. I have a field of about twenty acres literally yellow with it. T. B. Hamlin.

☞ Dr. Parry, the botanist of the Department of

Agriculture, informs us that the plant above stated, sent to us by Dr. Hamlin, is a *rare* species—VESICARIA *Lescurii*. It is mentioned in Gray's Botany as found by Leo Lesquereaux on the hills near Nashville, Tennessee, and to be sought for in southern Kentucky. Blooming early, long and profusely, it may prove to be a valuable bee plant.

CHRISTIANSBURG, VA., April 21.—The prospect for honey is fine here this spring. Apple trees are in full bloom; and the weather is warm and dry, giving the bees a fine chance. Mine are breeding very rapidly, and I hope to give you a good account of them as the season progresses. I enclose a plant for name, which is spreading all over this neighborhood rapidly. It commences blossoming early in February, and continues up to this time. My bees forsook the rye-meal in a few days after this came into bloom. J. R. GARDNER.

☞ The plant accompanying the foregoing note, is the "Whitlow Grass"—DRABA *verna*, Gray. It is found in all the Atlantic States, though not common. It is annual, and probably valuable only as furnishing pollen early for bees.

WORTHINGTON, PA., April 23.—Weather chilly. Fruit nearly all killed from frosts. Bees not faring well this spring. Have just concluded a series of thirteen articles on apiculture, in our county paper; and I think, from communications received, that an interest has been awakened in the right direction. J. W. BARCLAY.

WEST EDMISTON, N. Y., April 24.—My stock of bees, in the spring of 1870, consisted of seven colonies, in a fair average condition for bees in this section that spring. By artificial means I increased them to fifteen swarms. With the use of a honey emptying machine I took five hundred and thirty-five pounds of pure honey from them, besides obtaining two hundred pounds of surplus in boxes. This made a sum total of seven hundred and thirty-five (735) pounds, or one hundred and five pounds to the original swarm. Their net average weight October 1st, was forty pounds. They have wintered splendidly, both in chamber and on summer stands, and are in fine condition. I am well pleased with my experience in beekeeping, and consider my success favorable for a new beginner in apiculture. H. LONGWORTHY.

TUSCOLA, ILLS., May 1.—In the spring of 1870, I started with eight stands of bees, and have at present fifteen—having lost three last winter through carelessness; but have found that it costs something to learn certain facts in the bee line. Last season, was too dry here for bees; they hardly gathered enough to keep them. It has been rather cool till the 29th of April, when we had a good warm rain, and should the weather stay warm the bees will do well. That patent for feeding hogs is a pretty good illustration of some patent bee hives – not that I would hint that beemen would swindle one another. We all know that men selling patent rights are, like horse jockies, too honest to cheat anybody. I, at least, have not been swindled yet, as I let patent vendors pass along on their way rejoicing or grumbling, as they may choose to term it. I use the Langstroth patent, which can't be beat in the present age. I paid for the right to use it, and no man ought to use it without paying for it. H. C. DURBOROW.

SAXON, ILLS., May 8.—Bees through this section are very strong for this time in the year. They commenced gathering pollen about the 10th of March. Weather cool, with frost the last two nights. Apple trees nearly out of bloom. J. A. MAXFIELD.

[For the American Bee Journal.]

Dysentery.

DEAR JOURNAL:—I am writing to-day on the 15th of February. Any day now, may be the last day of confinement for my bees in their winter jail. Thus far they have needed extra care. As I told you, I had forty colonies, nearly half of them in bee gums, and the other half in frame hives, Gallup form. These I have emptied twice often during summer, so that all their honey was gathered during August and September. The bee gums are all right—all in position of rank and file, so that the bees in not one of them stir. The others have many dead bees, and although the honey-boards are laid on them only half-way, yet the bees cluster on them like swarms. This state of things has been so for the last three days. Every night I gave them more ventilation, but the more I gave them the more noisy they are, and dysentery has fairly set in. To-night I shall open the doors and take off the honey-boards altogether. My bee gums have not half so much ventilation, there being only a square hole, six by five inches, with bars to fasten the combs. Does not this look as if dysentery is the result of the quality of the honey, and that some honey has a greater degree of heat than others? Although my bee house smells very unpleasantly, I do not see that the bees are much affected. They appear lively and active, as in midsummer; yet they soil their combs with fæces, and the result will be a desertion of hives in the spring.

I am glad to see friend Gallup gives us something more about the Davis queen nursery. Let a good thing be encouraged, by all means. The queen nursery may be regarded as the third great invention in bee culture. There must be some misunderstanding between Gallup and Nesbit. They differ widely. I wish our friend Nesbit would give us the assurance that his queen nursery is identical with that of Dr. Davis. If it is not, he would do well to style it *my* queen nursery, instead of simply the nursery. This would avert misunderstanding and unnecessary explications.

I have heard much about purity of offspring in bee culture, and discussions on this subject are not wanting, and conflicting notions are still entertained. Methinks there is no difficulty in ascertaining pure blood. When I intend to compare some bees, I take a piece of comb with honey in it, go to some hive and hold the comb several minutes before the fly-hole, or until eight or ten bees collect on it. Then I carry them thus on the comb into a room in my house, and let them fly to a window on which the sun is shining in full force. The pure bee is clear and transparent, with a slender tapering body, and only a small tip of black; while the impure are of a muddy appearance on the window. You can discover the slightest adulteration.

If any one knows of any evil resulting from using maple sap for spring feeding of bees, say half a gill every night, let his voice be heard in Israel.

J. DUFFILER.

Rousseau, Wis.

[For the American Bee Journal.]

White Clover, Strong Stocks, Experiments, etc.

During an experience of twenty years in keeping bees in my location, I have seldom got surplus honey from any other source than white clover. Of basswood there is very little here. In some seasons the clover failed to bloom; in others it bloomed freely from the latter part of May or the first of June until late in the fall, but yielded very little honey. In most seasons, however, it yielded honey abundantly for eighteen or twenty days, never longer. In such seasons it usually bloomed some time before and after the period of abundant yield, but was very little visited by the bees. I have tried various methods to keep my stocks strong to work on the clover. Four years ago, I tried the following experiment, embracing eight strong stocks of black bees. Four of these I permitted to swarm, and as soon as a stock had swarmed, I exchanged stands with the next strongest stock, and removed all the queen cells but one, on the sixth day; and continued to do so till four stocks had swarmed, and the eight thus operated upon. Result: neither of the four stocks from which the bees were drawn, attempt to swarm, and each stored about forty pounds of surplus honey. Two of the stocks, thus reinforced after they had swarmed, continued to work as if nothing had happened; did not swarm again; and also stored about forty pounds of surplus honey, each—the same as the other four. The remaining two stocks were bent on swarming again. Both together did not store over ten pounds of surplus honey, and did very little inside. Both swarmed soon after their queens began to lay—the one on the 17th and the other on the 18th day after they had swarmed the first time. Neither of them had started any queen cells, but each raised a good queen afterwards. Since I have been using the Gallup hive, I have done very differently. But, more anon.

HENRY CRIST.

Lake, Stark Co., Ohio, April 8, 1871.

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[For the American Bee Journal.]

Frames to suit Honey Extractors.

MR. EDITOR:—As the size and shape of frames for honey-extractors is a subject somewhat new, we will give you an opinion based upon our experience. We prefer the bottom or brood frames deep, from twelve to fourteen inches; and the top frames for the honey extractor shallow, about seven inches;—for the following reasons: we then seldom have any brood to handle, and shallow frames of honey are not so liable to be broken, while being handled in the machine.

These upper frames we place in a box which rests upon the hive the same as the cover for boxes. (We speak of the "Thomas hive," and this has a flat cover which fits closely on the box, leaving a chamber one-fourth of an inch between the frames and cover.) If we wish to examine the brood department, we take off the box, cover, and frames at once. If we only wish the honey frames, we remove the cover, take out the frames, and brush the bees in front of the hive.

Our hives are near each other, and the ground is kept clean by an occasional hoeing. We would be pleased to learn more from our friend, J. Bogart, who has about 160 colonies in good condition and well managed, as we found by the time he had shown us his apiary. He is a practical "bee-man." If he will favor us with another call, he will find "Bachelor's Hall" renovated, and occupied by some of the fairer sex.

We prefer to put our slung honey in kegs or barrels for home use or shipping, and let the party shipped to put it in one or two quart glass jars, or sell by the pound, as will suit purchasers. The scales can be placed below the faucet, which can be closed when the required amount is drawn; the latter we find very convenient.

We are asked so frequently to give a description of our honey slinger, that we have concluded to give it in the BEE JOURNAL, once for all. We first made one, using a *tin can*, as recommended in the Journal, Vol. V., pages 87 and 169. We found the can liable to be indented and become springy, and requiring, if the combs were not of even weight, one man to hold the machine still. We tried again, and got an oak tub made 27 inches high; bottom diameter 25 inches, top diameter 22 inches; four hoops, the bottom one being set low enough to allow a faucet placed above it, so as to draw off all the honey. Two opposite staves should be allowed one inch or more above the top of the tub, which will hold the cover in place. We made the frame and shaft similar to those described in Vol. V., No. 4, by T. C. Hill. The cover is made of two pieces, on one of which is the gearing (we use fanning mill gearing), while the other is raised to put in the combs. We occupy only space enough to show the difference between ours and others previously mentioned.

We would be pleased to learn the results of wintering bees in a cellar, with stove-pipe ventilation.

PALMER BROS.

New Boston, Ill.

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[For the American Bee Journal.]

Wire Gauze, and Introducing Queens.

On page 228 of the April number of the Journal, in an article headed "Wintering Bees," D. P. Lane hits Gallup a dab about the wire cloth. From his own showing, providing he has not given his bees that purifying flight in February, where would they have been now? I have a few questions to ask Mr. Lane. I set my bees in the cellar the first week in December, and took them out the first week in April; and in all that time they were scarcely looked at. In fact, I was away from home, attending conventions, eight weeks during that time. I used no wire cloth, and do not think it necessary. When I once place my bees in the cellar, they are not taken out till spring is open. I think this "taking out" and "returning" unnecessary; and his bees cannot possibly be in better condition than mine.

are. It is true I lost two stocks out of thirty-six, but it was from another cause than the want of wire cloth. In the remainder of the stock, the loss did not average over twenty bees per stock. If Mr. Adam Grimm had to take out the whole of his stock of bees and return them again, even once, each winter, it would be quite a task. Now, friend Lane, answer candidly:—"Why add the expense of wire cloth, if it is not necessary?" and it certainly is not; for I have, for years, wintered bees successfully without it. Still, I have not the least objection to other parties using it, if they wish. But I think it a great deal better to teach others how to ventilate their hives properly and have them winter successfully; because it is a fixed fact that if bees are not properly ventilated, even with the wire cloth, they will almost certainly perish before spring.

Tyro, evidently, has had but very little experience with hybrid queens. His queen, no doubt, was a hybrid of the worst stripe; and, allowing me to be judge, the mother of said queen was a hybrid also. I never could succeed in raising a pure queen from an impure mother; but one of our noted queen breeders claims, in a private letter, that he can do it. I should like to see the tools he does it with.

We see that our friend Adam Grimm went into the novel process of making artificial colonies out of old workers as much as possible, to introduce new queens to. As he is an old hand, he has a perfect right to do so; but the new beginner, if he wishes to succeed, should endeavor to make artificial swarms consisting of young bees only, to introduce strange queens to. For example, take the frame containing the old queen out, and place it in a new hive; set the new hive on the old stand, and remove the old hive to a new location. In twenty-four hours, providing the weather is right, all the old bees will have left the new location, and we can introduce a new queen successfully with almost any ceremony; nay, we have repeatedly introduced them, in such cases, without any ceremony whatever. Understand, we do not recommend this method exclusively, but we give it for illustration merely. Almost any method will answer, if we first provide a colony with all young bees; we are then certain to introduce a queen successfully. We do not say that it will never fail; but we do say that we have never failed under these circumstances. With old workers, they frequently apparently accept the queens, and then supersede them in from eight to twelve days.

E. GALLUP.

Orchard, Iowa.

[For the American Bee Journal.]

A New Fumigator.

MR. EDITOR:—As the season for active operations in the apiary is approaching, perhaps some of your readers may feel interested in the description of a new fumigator, which suits me better than any heretofore described in the Bee Journal.

In few words it may be described as a box six inches long, by two wide and two deep, with a hole in each end and a wire cage an inch in diameter running lengthwise through the centre of the box, to hold a roll of cotton rags, a piece of punk, or a "buffalo chip." Now for particulars:

The ends of the box are made of pieces of pine, two inches square and three and a half inches long, with a quarter inch hole bored centrally lengthwise. One end of each piece is tapered—one being for a mouth-piece, the other for a nozzle. The sides are of $\frac{3}{8}$ stuff, 2 by $7\frac{1}{2}$ inches. The bottom and cover are $2\frac{3}{4}$ inches by $7\frac{1}{2}$. The cover to be well fitted, hung with wire hinges, and well battered on the outside to prevent warping. Before putting the box together, punch a circle of six holes, $\frac{1}{8}$ inch deep, on the inside of the end pieces around the central hole and half an inch from it, to receive the ends of six wires $6\frac{1}{4}$ inches long, which form the wire cage before referred to, for holding the rag, punk or "chip."

A small spring, placed in a slot or mortice on the top of one of the end pieces, throws up the cover half an inch to admit air when the instrument is not in use. The act of picking it up closes the cover.

Should a longer nozzle be desired, a piece of elder from which the pith has been punched, inserted in a half inch hole in the nozzle, answers an excellent purpose. Mine is nearly a foot long, and is all the better for being crooked.

One thing more. Has any of your readers, as I have many a time, wished to get his fumigator to his mouth when he had his bee hat on? If so, he may be interested in my arrangement for facilitating that operation. Make a hole in your hat opposite your mouth, $1\frac{1}{2}$ inches square. Perpendicularly over this, fasten two pieces of gum elastic ribbon, two inches long and $\frac{3}{4}$ of an inch wide. Put two more similar pieces across horizontally, fastening at the ends, and the thing is done. The mouth-piece of your fumigator can be pushed at pleasure through this elastic ribbon, making a tight fit always, and closing when the instrument is withdrawn.

If any one should wish to refer to this, to prevent circumlocution, I would suggest that they call it *Bartlett's Right-angular, Gum elastic, Self-closing Fumigator Port-hole for Bee Hats*! N. B. No patent applied for.

MICHAEL W. BARTLETT.

West Newbury, Mass., April 18, 1871.

[For the American Bee Journal.]

A Question for Solution.

A and B buy 400 hives for $400, each paying $200. When they came to divide them, A said to B, I am willing to pay fifty cents per hive more than you, if you give me the choice of the hives. They so agreed to divide them. How many did each get; and how much per hive did each pay?

JOHN B. OVERTON.

Lexington, Ky., March 25, 1871.